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THE

MISCELLANEOUS DOCUMENTS

OF THE

HOUSE OF REPRESENTATIVES

FOR THE

FIRST SESSION OF THE FIFTY-SECOND CONGRESS,

1891-'92.

IN FIFTY-THREE VOLUMES.

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INDEX TO HOUSE MISCELLANEOUS DOCUMENTS.

CONTENTS OF THE VOLUMES.

Vol. 1..Nos. 1 to 335 inclusive, except Nos. 11 to 26, 48, 50, 60, 77, 107, 141, 153, 154, 233, 234, 256, 258, 261, 295, 296, 320, and 334.
Vol. 2..No. 11.
Vol. 3..No. 12.
Vol. 4..No. 13, part 1.
Vol. 5..N. 13, part 2.
Vol. 6..No. 13, part 3.
Vol. 7..No. 13, part 4.
Vol. 8..No. 14, part 1.
Vol. 9..No. 14, part 2.
Vol. 10..No. 15, part 1.
Vol. 11..No. 15, part 2.
Vol. 12..No. 15, part 3.
Vol. 13..No. 16, part 1.
Vol. 14..No. 16, part 2.
Vol. 15..Nos. 17 and 18.
Vol. 16..Nos. 19 and 20.
Vol. 17..Nos. 21 and 22.
Vol. 18..No. 23.
Vol. 19..No. 24.
Vol. 20..Nos. 25 and 336.
Vol. 21..No. 26.
Vol. 22..No. 48, part 1.
Vol. 23..No. 48, part 2.
Vol. 24..No. 48, part 3.
Vol. 25..No. 48, part 4.
Vol. 26..No. 48, part 5.
Vol. 27..No. 50, part 1.
Vol. 28..No. 50, part 2.
Vol. 29..No. 60.
Vol. 30..No. 77.
Vol. 31..No. 107.
Vol. 32..Nos. 141, 234, and 320.
Vol. 33..No. 153.
Vol. 34..No. 154.
Vol. 35..No. 233, part 1.
Vol. 36..No. 233, part 2.
Vol. 37..No. 233, part 3.
Vol. 38..No. 256.
Vol. 39..No. 258.
Vol. 40..No261.
Vol. 41..No. 295.
Vol. 42..No. 296.
Vol. 43..No. 334, part 1.
Vol. 44..No. 334, part 2.
Vol. 45..No. 337.
Vol. 46..No. 338, part 1.
Vol. 47..No. 338, part 2.
Vol. 48..No. 338, part 3.
Vol. 49..No. 339.
Vol. 50..No. 340.
Vol. 51..No. 341.
Vol. 52..No. 342.
Vol. 53..No. 343.

Subject.	No.	Vol.
Abernathy, I. T., estate of, report of Court of Claims	200	1
Agriculture, resolution for Committee on Agriculture to report effect of tariff on	73	1
Alabama, resolution to investigate violation of civil-service law in	304	1
Albes, Conrad H., and E. August, referred to Court of Claims	158	1
Allen, Darling, report of Court of Claims	46	1
Allen, L. D., referred to Court of Claims	118	1
report of Court of Claims	192	1
Allen, Martha A., administratrix, referred to Court of Claims	116	1
Alexander, Malinda, referred to Court of Claims	158	1
Anacostia and Potomac River Railroad Company, annual report of	221	1
Anderson, A. E., referred to Court of Claims	119	1
Anderson, David B., report of Court of Claims	45	1
Anderson, James C. (estate of) referred to Court of Claims	214	1
Anderson, Mary H., widow of Hiram, referred to Court of Claims	224	1
Anderson, Mary S., report of Court of Claims	61	1
Andes, Abraham, referred to Court of Claims	139	1
Applewhite, A. M., administrator, report of Court of Claims	105	1
Armelin, Charles, estate of, referred to Court of Claims	150	1
Armistead, Vincent, referred to Court of Claims	210	1
Ash, John, report of Court of Claims	72	1
Astronomical observations, report for 1887	11	2
Atlanta, Ga., St. Phillip's Church, referred to Court of Claims	129	1
Attorney-General: Resolution of request for information relative to prosecution of the sugar trust	215	1
Avery, John, estate of, referred to Court of Claims	209	1
Ayres, Asa B., referred to Court of Claims	225	1
Badeaux, Ulger V., referred to Court of Claims	40	1
Badley, Nannie A., administratrix, report of Court of Claims	30	1
Bailey, John C., report of Court of Claims	33	1
Baker, Sarah K. L., report of Court of Claims	79	1
Balmer, Charles, report of Court of Claims		1
Baltimore, Md., resolution to investigate civil-service violations at	289	1
Balzer, Gustavus A., report of Court of Claims	308	1
Bancroft, Charlotte C., estate of, report of Court of Claims	40	1
Banks, Charles, referred to Court of Claims	180	1
Barnum, Thomas, report of Court of Claims	298	1
Barker, L. A., estate of, report of Court of Claims	257	1

Subject.	No.	Vol.
Bass, Giles W., referred to Court of Claims	120	1
Bates, J. K., estate of, report of Court of Claims	252	1
Baudry, Omer, referred to Court of Claims	236	1
Baugh, William, referred to Court of Claims	210	1
Baynard, Joseph S., referred to Court of Claims	299	1
Beard, I. B., referred to Court of Claims	81	1
Beck, John, report of Court of Claims	72	1
Beckham, William R., referred to Court of Claims	210	1
Beeler, David, report of Court of Claims	314	1
Beezley, Charles F., administrator, report of Court of Claims	265	1
Belcher, D. P., report of Court of Claims	92	1
Bell, Josiah L., referred to Court of Claims	239	1
Bell, Mary A., referred to Court of Claims	129	1
Bennett, Jesse, referred to Court of Claims	158	1
Betsey (schooner), report of Court of Claims	167	1
Bibb, E. C., report of Court of Claims	100	1
Biggers, R. P., estate of, report of Court of Claims	253	1
Biggers, S. E., administrator, report of Court of Claims	253	1
Billingslea, Walter R., referred to Court of Claims	119	1
Birchett, William G., referred to Court of Claims	303	1
Bishop, Clarissa, referred to Court of Claims	225	1
Black, Joseph, referred to Court of Claims	151	1
Black, L. E., referred to Court of Claims	214	1
Blackford, William T., report of Court of Claims	173	1
Blackistone, R. P., referred to Court of Claims	223	1
Blasdell, Cobb & Co., referred to Court of Claims	91	1
Bloom, Henrietta Y., referred to Court of Claims	151	1
Blosser, Joseph, referred to Court of Claims	139	1
Bolling, Rebecca L., administratrix, report of Court of Claims	40	1
Booth, M. A., referred to Court of Claims	128	1
Botto, Luigi, report of Court of Claims	323	1
Bourke, Capt. John G., U. S. Army, referred to Court of Claims	189	1
Bowling, John, heirs of, referred to Court of Claims	260	1
Bradford, Samuel, estate of, referred to Court of Claims	158	1
Branch, Jesse L., referred to Court of Claims	216	1
Brandt, Jesse L., referred to Court of Claims	211	1
Breaux, Pierre, referred to Court of Claims	150	1
Brewer, Elvy, referred to Court of Claims	126	1
Briant, Mrs. E. H., referred to Court of Claims	150	1
Bridges, Sarah E., referred to Court of Claims	130	1
Brown, A. M., referred to Court of Claims	216	1
Brown, Florence A., administratrix, referred to Court of Claims	170	1
Brown, S. W., report of Court of Claims	132	1
Brown, Susan, report of Court of Claims	72	1
Brown, Thomas, referred to Court of Claims	120	1
Brown, Thomas J., referred to Court of Claims	176	1
Bruen, John T., report of Court of Claims	160	1
Buckey, Mary E., referred to Court of Claims	136	1
Buckholder, Martin, administrator, referred to Court of Claims	139	1
Bureau of Ethnology, seventh annual report of	107	31
eighth annual report of	295	41
Bureau of Labor, statement of expenditures by Commissioner of, for fiscal year 1891	27	1
Burke, Hannah, referred to Court of Claims	303	1
Burton, Sarah, report of Court of Claims	306	1
Butler, Philip T., referred to Court of Claims	140	1
Butt, William, referred to Court of Claims	158	1
California, resolution to investigate relative to forest reservations in	333	1
Caldwell, C. C., referred to Court of Claims	246	1
Caldwell, John R., referred to Court of Claims	120	1
Calliope (brig), report of Court of Claims	187	1
Campbell, J. M., referred to Court of Claims	211	1

Subject.	No.	Vol.
Cannon, Jane W., report of Court of Claims	40	1
Capers, Francis T., referred to Court of Claims	299	1
Capital, North O, and South Washington Railway Company, annual report of	54	1
Carl, David and Barbette, referred to Court of Claims	236	1
Caroline (brig), report of Court of Claims	177	1
Carothers, Hugh, report of Court of Claims	40	1
Carpenter, George, referred to Court of Claims	120	1
Carpenter, S. L., report of Court of Claims	285	1
Carr, Rogers & Co., referred to Court of Claims	146	1
Carr, William A., report of Court of Claims	36	1
Carter, Alfred B., referred to Court of Claims	82	1
Carter, Thomas, report of Court of Claims	159	1
Cash, B. F., estate of, report of Court of Claims	191	1
Cate, H. T., report of Court of Claims	272	1
Cattle on Cherokee lands, resolution to investigate	331	1
Census, final reports of the Eleventh	340	50
Census Bureau, resolution relative to a permanent	184	1
resolution to investigate workings of	194 328	1 1
Charlotte (scow), report of Court of Claims	229	1
Chavis, Preston, report of Court of Claims	46	1
Cheairs, Calvin, report of Court of Claims	249	1
Check, Mrs. Nelson, referred to Court of Claims	140	1
Cheek, R. T., referred to Court of Claims	118	1
Cherokee lands, resolution relative to grazing of cattle on, in violation of law	331	1
Chester, Lester P., referred to Court of Claims	220	1
Choctaw and Chickasaw Indians, resolution relative to payment for their interest in certain reservations	275	1
Christy, John, & Co., referred to Court of Claims	91	1
Chum, A. B., referred to Court of Claims	121	1
Civil service, resolutions to investigate violations of: Alabama	304	1
Baltimore	289	1
Civil Service Commission, response of, to resolution	270	1
Claims:		
private, report of Clerk of the House on indexes of	31	1
List of dismissed, by Court of Claims under Bowman act	276	1
List of judgments for, rendered in district and circuits courts	243	1
Clara Bell (steamer), referred to Court of Claims	201	1
Clark, J. A., report of Court of Claims	101	1
Clark, M. S., report of Court of Claims	313	1
Clement, C. R., report of Court of Claims	156	1
Clerk of the House of Representatives:		
Annual statement of expenditures from office, and payments to employés	4	1
Annual report on property in possession of	9	1
Report of, relative to completion of indexes of private claims	31	1
Letter of, transmitting list of contested-election cases	32	1
Letter of, relative to payments to session employés after July 6	327	1
Report on condition of contingent fund	161	1
Cleveland, Elizabeth J., referred to Court of Claims	216	1
Cobb, J. & O. P., & Co., referred to Court of Claims	91	1
Colbert County, Ala., La Grange College and Lafayette Female Seminary of	120	1
Cole, John S., administrator, report of Court of Claims	69	1
Cole, Mrs. S. M., referred to Court of Claims	138	1
Collard, Thaddeus, report of Court of Claims	42	1
Collier, William R., report of Court of Claims	185	1
Collins, Joseph, referred to Court of Claims	151	1
Columbian Exposition. (*See* World's Columbian Exposition)	68	1
Commissioner of Freedmen's Saving and Trust Company, annual report of	29	1

Subject.	No.	Vol.
Commissioner of Labor, letter of, with statement of expenditures in the Bureau of Labor for 1891	27	1
Committee on Accounts, resolution to designate committees to have clerks	39	1
Committees of the House, resolution for Committee on Accounts to designate clerks to	39	1
List of standing and select	2	1
Confidence (sloop), report of Court of Claims	203	1
Connell, Michael, referred to Court of Claims	140	1
Contingent fund. (*See* House of Representatives.)		
Consular reports:		
Vol. 35, Nos. 124-127	17	15
Vol. 36, Nos. 128-131	18	15
Vol. 37, Nos. 132-135	154	34
Vol. 38, Nos. 136-139	258	39
Vol. 39, Nos. 140-143	339	49
special report on refrigerators and food preservation in foreign countries	19	16
special report on streets and highways in foreign countries	20	16
special report on coal and coal consumption in South America	153	33
Contested elections, letter from Clerk of the House of Representatives transmitting list of cases	32	1
Cook, Jared R., referred to Court of Claims	119	1
Cooner, Mary A., referred to Court of Claims	158	1
Cordell, Lucy, report of Court of Claims	277	1
Cordill, Joseph, referred to Court of Claims	148	1
Coulson, H. H., report of Court of Claims	250	1
Court of Claims, response of, to House resolution	271	1
Courts of the United States, resolution to investigate illegal, etc., practices in connection with	329	1
Cowdon, J., memorial of, relative to Mississippi River Commission	188	1
Crabill, Joseph D., referred to Court of Claims	139	1
Crampton, Richard, referred to Court of Claims	158	1
Crampton, S. W., report of Court of Claims	316	1
Crenshaw, A. B., report of Court of Claims	58	1
Crews, Hamilton, referred to Court of Claims	89	1
Crews, William, report of Court of Claims	243	1
Crosby, William, referred to Court of Claims	138	1
Cross, Joel, referred to Court of Claims	129	1
Crow, William, referred to Court of Claims	127	1
Crum, B. L., estate of, referred to Court of Claims	116	1
Crum, Elizabeth, estate of, referred to Court of Claims	116	1
Culkin, Thomas, estate of, report of Court of Claims	293	1
Cummings, Phœbe, referred to Court of Claims	119	1
Cunningham, Rachel, referred to Court of Claims	158	1
Dalton, Mary V., administratrix, report of Court of Claims	235	1
Dasly, F. O., estate of, referred to Court of Claims	150	1
Davidson, Sarah A., report of Court of Claims	286	1
Davis, A. W., referred to Court of Claims	117	1
Davis, Alexander, report of Court of Claims	35	1
Davis, George W., report of the Court of Claims	242	1
Davis, Mrs. M. M., referred to Court of Claims	119	1
Davis, Marshall, referred to Court of Claims	118	1
De Bevoise, S. H., referred to Court of Claims	209	1
Debnam, Thomas R., referred to Court of Claims	130	1
Deems, Lewis, referred to Court of Claims	169	1
Deitrich, Emily, referred to Court of Claims	217	1
Delahoussaye, Sidonie, referred to Court of Claims	224	1
Delille, Jean, referred to Court of Claims	217	1
De Loach Claiborne, estate of, referred to Court of Claims	209	1
Dennis, Mary A., referred to Court of Claims	151	1
Dent, Warren R., referred to Court of Claims	86	1
Deslonde, Mrs. Frank, referred to Court of Claims	224	1
Desmane, Alphonse, referred to Court of Claims	225	1

Subject.	No.	Vol.
Deucatte, Odon, referred to Court of Claims	151	1
Dickens, Edward V., report of Court of Claims	40	1
Dickson, Emily C., referred to Court of Claims	158	1
Dieters, John, report of Court of Claims	326	1
District of Columbia, letter relative to electric lighting of Massachusetts avenue and Seventeenth street	62	1
Dixon, George O., report of Court of Claims	51	1
Doherty, M. A., referred to Court of Claims	119	1
Dolman, Jacob, refered to Court of Claims	139	1
Donato, Auguste, heirs of, referred to Court of Claims	83	1
Donato, Belote A., referred to Court of Claims	151	1
Doorkeeper of the House of Representatives:		
Report of sale of waste paper, etc	5	1
Report of property in possession of	8	1
Report on folding room	10	1
Dougherty, Mary A., referred to Court of Claims	118	1
Douglas, W. W., administrator, referred to Court of Claims	151	1
Dowdy, W. P., report of Court of Claims	46	1
Downey, Amelia, referred to Court of Claims	139	1
Downing, A. D., estate of, referred to Court of Claims	119	1
Doyle, Johanna, referred to Court of Claims	140	1
Duffy, Eugenia and W. B., referred to Court of Claims	148	1
Dulin, A. F., estate of, referred to Court of Claims	303	1
Dunlap, Joseph, report of Court of Claims	319	1
Duval, Sandy, referred to Court of Claims	139	1
East, Abner, report of Court of Claims	252	1
East, Washington, report of Court of Claims	222	1
Easterly, Isaac, referred to Court of Claims	216	1
Edwards, Emily, referred to Court of Claims	226	1
Edwards, W. W., referred to Court of Claims	225	1
Eight-hour law, resolution to investigate violations of	103	1
Eleventh Census, final reports of the	340	50
Elgin, J. H., report of Court of Claims	93	1
Eliza (ship), report of Court of Claims	204 255	1 1
Elliott, John R., referred to Court of Claims	236	1
Elgey, John, referred to Court of Claims	148	1
English, Valentine S., report of Court of Claims	283	1
Engs, Samuel F., referred to Court of Claims	115	1
Erquhart, C. Augusta, referred to Court of Claims	99	1
Ethnology, contributions to North American, vol. 7	26	21
Seventh Annual Report of Bureau of, 1885-'86	107	31
Eighth Annual Report of Bureau of	295	41
Eulogies on Hon. L. C. Houk	234	32
Hon. W. H. F. Lee	320	32
Ewell, Jane N., estate of, referred to Court of Claims	216	2
Faget, Emile, heirs of, referred to Court of Claims	151	1
Fairfax, John W., report of Court of Claims	145	1
Farley, John A., referred to Court of Claims	214	1
Farrell, Thomas, report of Court of Claims	132	1
Fawcett, Elkanah, report of Court of Claims	312	1
Febrey, John E., report of Court of Claims	152	1
Field, John A., referred to Court of Claims	124	1
Fish Commission, bulletins of (vol. x, 1890)	341	5
Fiske, Martha A., referred to Court of Claims	158	1
Filhiol, H., referred to Court of Claims	65	1
Flick, Catharine, referred to Court of Claims	139	1
Flowers, Elizabeth, referred to Court of Claims	130	1
Flowers, J. G., report of Court of Claims	46	1
Ford, R. L., report of Court of Claims	78	1
Forest reservations, resolution to investigate necessity of, and condition of, in California	333	1
Forgey, James, referred to Court of Claims	227	1

Subject.	No.	Vol.
Fraleix, Martin, referred to Court of Claims	129	1
Francis, Jean, sr., referred to Court of Claims	151	1
Franklin, J. B., referred to Court of Claims	211	1
Franklin, W. A., executor, report of Court of Claims	292	1
Frasuer, Eli, reference to Court of Claims	129	1
Freedman's Saving and Trust Company, annual report of commissioner of	29	1
Friendship (brig) report of Court of Claims	178	1
	321	1
Friendship (schooner) report of Court of Claims	321	1
Fromherz, Leopold, report of Court of Claims	293	1
Fuller, J. B., referred to Court of Claims	118	1
Fusilier, Corrinne Perret, referred to Court of Claims	150	1
Gallagher, Charles, referred to Court of Claims	133	1
Gallagher, Dr. Thos., resolution to investigate conviction, etc., of	324	1
Gallott, Julia, referred to Court of Claims	151	1
Garrot, Pierre, referred to Court of Claims	236	1
Garett, W. F., referred to Court of Claims	216	1
Garrison, Silas M., referred to Court of Claims	158	1
Geological Survey;		
Bulletins of, 66 to 70	21	17
Bulletin of, 71	22	17
Bulletins of, 72 to 75	23	18
Bulletins of, 76 to 80	24	19
Bulletins of, 81 to 82	25	20
Bulletin of, 83	336	20
Bulletins of, 84 to 86	337	45
Monographs of, Vol. 17	60	29
Monographs of, Vol. 18	77	30
Monographs of, Vol. 19	342	52
Monographs of, Vol. 20	343	53
Georgetown Barge, Dock, Elevator and Railway Co., report of	55	1
Georgetown and Tenallytown Railway Company, letter from secretary transmitting list of stockholders of	57	1
Germania Safety, Vault and Trust Company, administrator, report of Court of Claims	182	1
Gibson, William F., report of Court of Claims	75	1
Gilbreath, Simeon, report of Court of Claims	42	1
Gilfoil, Patrick, referred to Court of Claims	148	1
Gillett, Theodore J., estate of, referred to Court of Claims	227	1
Gober, M. A., administrator, report of Court of Claims	200	1
Gomez, Edwin, referred to Court of Claims	98	1
Goodrich, A. E. and M. E., referred to Court of Claims	151	1
Gordon, R., administrator, report of Court of Claims	292	1
Gorman, George, estate of, report of Court of Claims	202	1
Gosehorn, Sarah, report of Court of Claims	63	1
Govan, J. J., referred to Court of Claims	127	1
Green, Edman, referred to Court of Claims	259	1
Green, S. E., administrator, report of Court of Claims	269	1
Greenhill, Thomas C., referred to Court of Claims	120	1
Grice, John, report of Court of Claims	74	1
Grimmett, Matthew N., referred to Court of Claims	210	1
Grisson, Sarah, referred to Court of Claims	123	1
Grow, ex-Speaker Galusha A., presentation of portrait, proceedings in House	141	1
Guidry, Lesant, heirs of, referred to Court of Claims	150	1
Gullory, Martin, referred to Court of Claims	151	1
Gunnell, Elizabeth, report of Court of Claims	74	1
Haigh, A. V., referred to Court of Claims	176	1
Haller, Jonathan, referred to Court of Claims	139	1
Hamilton, Elyisa, report of Court of Claims	40	1
Hammon, Jacob, referred to Court of Claims	139	1
Hancock, John W., report of Court of Claims	280	1
Hannah (schooner), report of Court of Claims	203	1

Subject.	No.	Vol.
Harding, Francis E., referred to Court of Claims	224	1
Hardman, J. B., report of Court of Claims	252	1
Hardwick, F. E., report of Court of Claims	144	1
Harvey, A. A., guardian, report of Court of Claims	200	1
Harvill, Mrs. L. J., referred to Court of Claims	121	1
Hathaway, John R., referred to Court of Claims	134	1
Hayes, Samuel, referred to Court of Claims	211	1
Hayman, Harry, report of Court of Claims	274	1
Haywood, Mrs. W. Dallas, referred to Court of Claims	130	1
Heard, James A., referred to Court of Claims	120	1
Hearrell, L. B., report of Court of Claims	49	1
Heberlein, August, estate of, referred to Court of Claims	219	1
Hebron, Adeline L., estate of, referred to Court of Claims	119	1
Henkel, Philip, referred to Court of Claims	198	1
Henry (schooner), report of Court of Claims	203	1
Henry (ship), report of Court of Claims	264	1
Herbert, S. B., report of Court of Claims	164	1
Hetty Jane (ship), report of Court of Claims	297	1
Hickman, M. T., referred to Court of Claims	217	1
Higgins, Richard, estate of, referred to Court of Claims	127	1
Hill, Alexander, referred to Court of Claims	151	1
Hill, Joseph A., referred to Court of Claims	128	1
Hiram (brig), report of Court of Claims	273	1
Hitty (ship), report of Court of Claims	247	1
Hobbs, Thomas, referred to Court of Claims	303	1
Holbrook, Julia, referred to Court of Claims	128	1
Holland, James L., estate of, referred to Court of Claims	210	1
Holsten Female College, referred to Court of Claims	211	1
Holt, C. G., administrator of, referred to Court of Claims	130	1
Holt, John M., referred to Court of Claims	216	1
Homestead, Pa.:		
Resolution relative to employment of Pinkerton detectives at	310	1
Evidence taken, in investigating labor troubles at	335	1
Hooper, William, estate of, referred to Court of Claims	66	1
Hoover, Benjamin, referred to Court of Claims	139	1
Hoover, James C., referred to Court of Claims	216	1
Hopper, W. A., administrator of, referred to Court of Claims	119	1
Hough, John H., report of Court of Claims	286	1
Hough, Robert, report of Court of Claims	286	1
Houk, Hon. L. C., eulogies on	234	32
House of Representatives:		
List of members by States	1	1
List of select and standing committees	2	1
List of members and the committees on which they serve	3	1
Report on resolution for Committee on Accounts to designate clerks for committees of	39	1
Rules of	67	1
Report of Clerk on condition of contingent fund	161	1
Letter from the Clerk relative to salary of session employés	327	1
Hubbard, Mary Jane, referred to Court of Claims	211	1
Hughes, William H., administrator, report of Court of Claims	38	1
Humboldt Female College, referred to Court of Claims	216	1
Hume, Isaac, referred to Court of Claims	139	1
Humphreys, J. H., report of Court of Claims	58	1
Hundley, William T., referred to Court of Claims	137	1
Hunt, Anna, administratrix, report of Court of Claims	40	1
Hunt, J. W., report of Court of Claims	222	1
Hurdle, Eunice, referred to Court of Claims	116	1
Hurdley, W. J., administrator, report of Court of Claims	252	1
Hurley, Stephen, report of Court of Claims	232	1
Idaho, resolution to investigate labor troubles in	330	1
Indian Territory, resolution to make inquiries looking to admission of, as State	325	1
Industrial Christian Home of Utah, report respecting operations of	103	1

Subject.	No.	Vol.
Izard, Florimond, referred to Court of Claims	151	1
Jane (schooner), report of Court of Claims	196	1
Jenkins, H. E., report of Court of Claims	267	1
Johnson, Joseph B., referred to Court of Claims	210	1
Jones, F A., administrator, report of Court of Claims	292	1
Jones, Francis S., estate of, referred to Court of Claims	121	1
Jones, Isaac and Thomas C., estate of, referred to Court of Claims	118	1
Jones, John, referred to Court of Claims	210	1
Jones, Dr. John H., referred to Court of Claims	116	1
Jones, Phillip M., administrator, report of Court of Claims	253	1
Jon s, Philip R., estate of, report of Court of Claims	253	1
Jordan, R. D., guardian of heirs of, referred to Court of Claims	211	1
Juliana (vessel), report of Court of Claims	281	1
Kannell, John, report of Court of Claims	58	1
Kaylor, Daniel, referred to Court of Claims	216	1
Keating, Martin, referred to Court of Claims	155	1
Keaton, B. R., report of Court of Claims	269	1
Keigan, Mary E., referred to Court of Claims	84	1
Keithley, A. L., report of Court of Claims	101	1
Keithley, W. G., report of Court of Claims	101	1
Kelly, Peter, report of Court of Claims	78	1
Kennedy, Leonora J., referred to Court of Claims	151	1
Kergon, Thomas, referred to Court of Claims	88	1
Kerr, A. C., referred to Court of Claims	126	1
Kibler, Josiah and Jeremiah, referred to Court of Claims	139	1
Kimmons, William M., referred to Court of Claims	116	1
King, Thomas J., referred to Court of Claims	158	1
Kirkpatrick, M. R., report of Court of Claims	186	1
Knight, Elizabeth, referred to Court of Claims	158	1
Knight, Joseph, referred to Court of Claims	236	1
Knight, Joseph S., report of Court of Claims	40	1
Kouns, John, referred to Court of Claims	227	1
Labell, Charles, referred to Court of Claims	126	1
Labor, resolution to investigate sweating system of tenement house	71	1
evidence taken in troubles at Homestead, Pa	335	1
Lafferty, James, referred to Court of Claims	127	1
Lafleur, Ben. M., referred to Court of Claims	151	1
Lafleur, Jean Pierre, referred to Court of Claims	151	1
Lafleur, Marcelin, referred to Court of Claims	151	1
Lake, Daniel, referred to Court of Claims	179	1
Lam, James, estate of, referred to Court of Claims	138	1
Langley, Aaron, report of the Court of Claims	240	1
Lanier, J. C., estate of, report of Court of Claims	265	1
Lanier, N. B., referred to Court of Claims	119	1
La Rue, Mrs. Mary D., referred to Court of Claims	138	1
Lastrapres, Victor, referred to Court of Claims	151	1
Lauderdale, S. Elizabeth, referred to Court of Claims	158	1
Lawhead, William, administrator, referred to Court of Claims	81	1
Lawrence, L. J., referred to Court of Claims	214	1
Lazare, Jean Baptiste, estate of, referred to Court of Claims	83	1
Leake, Mary S., report of Court of Claims	40	1
Leduff, Alexis, referred to Court of Claims	151	1
Lee, Carter R. B., administrator, report of Court of Claims	40	1
Lee, J. C., report of Court of Claims	72	1
Lee, W. H. F., eulogies on	320	32
Leeds (packet ship), report of Court of Claims	273	1
Lefoldt, Julius, referred to Court of Claims	140	1
Legg, A. C., report of Court of Claims	94	1
Leiper, John, referred to Court of Claims	216	1
Lemell, E., referred to Court of Claims	217	1
Lemelle, Charles, estate of, referred to Court of Claims	151	1
Lemelle, Leon, referred to Court of Claims	151	1
Lemelle, Ludger, estate of, referred to Court of Claims	151	1
Lemelle, Rigabert, estate of, referred to Court of Claims	151	1

Subject.	No.	Vol.
Lement, Pierre, referred to Court of Claims	151	1
Lewallen, John Preston, administrator, report of Court of Claims	40	1
Lewis, Abner D., referred to Court of Claims	127	1
Lewis, Mary F., report of Court of Claims	44	1
Lides, David, estate of, referred to Court of Claims	158	1
Lillard, B., estate of, referred to Court of Claims	213	1
Lipscomb, James C., referred to Court of Claims	207	1
Litten, Julius B., referred to Court of Claims	210	1
Logan, Mary S., referred to Court of Claims	121	1
Long, Henry W., referred to Court of Claims	126	1
Long, William R., referred to Court of Claims	158	1
Lowe, Virginia, report of Court of Claims	64	1
Lowenberg, L. M., administrator, report of Court of Claims	293	1
Lucas, E. C., report of Court of Claims	247	1
Luchman, William, referred to Court of Claims	140	1
Lutz, Morris, referred to Court of Claims	139	1
Lynch, David, report of Court of Claims	59	1
McAllister, A. J., report of Court of Claims	132	1
McClintic, William, report of Court of Claims	132	1
McCown, J. I., report of Court of Claims	46	1
McDonald, William, report of Court of Claims	80	1
McGloughlin, Virginia, referred to Court of Claims	83	1
McGuffee, sr., G. V., referred to Court of Claims	86	1
McHenry, L. S., report of Court of Claims	163	1
McKenzie, D. W., report of Court of Claims	278	1
McLaughlin, Ammon, referred to Court of Claims	227	1
McLean, Louisa E., referred to Court of Claims	211	1
McLemord, Sarah L., administratrix, referred to Court of Claims	87	1
McMurtrey, John, referred to Court of Claims	210	1
McNeill, John C., referred to Court of Claims	130	1
Madden, Patrick, report of Court of Claims	232	1
Maddox, Margaret Virginia, referred to Court of Claims	162	1
Marklein, Charles, referred to Court of Claims	106	1
Marshall, Saline County, Mo., Christian Church of, referred to Court of Claims	183	1
Martha (sloop), report of Court of Claims	195	1
Martin, Cyrus, referred to Court of Claims	109	1
Martin, Emily R., estate of, report of Court of Claims	40	1
Martin, John J., referred to Court of Claims	217	1
Mary (sloop), report of Court of Claims	203	1
Mastick, Henry, report of Court of Claims	166	1
Mathews, Harvey, administrator, report of Court of Claims	191	1
Matlock, E. S., estate of, referred to Court of Claims	116	1
Maxwell land grant, resolution relative to alleged conspiracy in connection with	311	1
Mayse, Richard, report of Court of Claims	190	1
Meaher, Timothy, administrator of, referred to Court of Claims	121	1
Meeha, Catharine Barry, referred to Court of Claims	90	1
Members of the House of Representatives:		
List of, by States	1	1
List of select and standing committees	2	1
List of, (alphabetical) and committees on which they serve	3	1
Menillion, Francis, referred to Court of Claims	83	1
Menillon, A. D., estate of, report of Court of Claims	254	1
Menillon, Alphonse, referred to Court of Claims	151	1
Menillon, Alphonse, administrator, report of Court of Claims	254	1
Menillon, Lucien, referred to Court of Claims	151	1
Mercer, Furneyfold, report of Court of Claims	42	1
Metropolitan Railroad Company, annual statement of	53	1
Middlekauff, John C., report of Court of Claims	37	1
Miles, William T., referred to Court of Claims	181	1
Miller, David, report of Court of Claims	76	1
Miller, J. F., report of Court of Claims	72	1
Miller, J. M., report of Court of Claims	279	1

Subject.	No.	Vol.
Milley, S. B., administrator, referred to Court of Claims	139	1
Mineral resources, report on	296	42
Mississippi River Commission, memorial of John Cowdon relative to	188	1
Mitchell, James A., referred to Court of Claims	126	1
Mitchell, Thomas R., and R. T., report of Court of Claims	283	1
Monahan, Mary E., referred to Court of Claims	81	1
Montgomery, Hugh, referred to Court of Claims	217	1
Montgomery, Olivia F., referred to Court of Claims	86	1
Moore, H. A., report of Court of Claims	317	1
Moore, Stativa, referred to Court of Claims	84	1
Moore, Stephen, administrator, referred to Court of Claims	66	1
Morat, F. Louis, report of Court of Claims	290	1
Morgan, Jesse B., referred to Court of Claims	158	1
Morgan, William S., referred to Court of Claims	158	1
Moseley, William, jr., referred to Court of Claims	300	1
Moyer, I. H., report of Court of Claims	305	1
Mulholland, John, Patrick, and Peter, report of Court of Claims	152	1
Mumma, H. C., report of Court of Claims	302	1
Munday, G. W., administrator, referred to Court of Claims	151	1
Murdock, William M., report of Court of Claims	40	1
Murphy, J. J., referred to Court of Claims	84	1
Murphy, James, referred to Court of Claims	119	1
Mussen, Buford, report of Court of Claims	199	1
Nancy (schooner), report of Court of Claims	167	1
Nancy (sloop), report of Court of Claims	112	1
Naval observations (1888)	256	38
Naval Observatory, report of observations from	11	2
Nazareth Literary and Benevolent Institution, report of Court of Claims	251	1
Neal, Rhoda, report of Court of Claims	248	1
Neal, W. H., estate of, referred to Court of Claims	214	1
Neck, George, sr., referred to Court of Claims	154	1
Neidlinger, C. V., report of Court of Claims	143	1
Nelson, John N., referred to Court of Claims	158	1
Nelson, Potter, report of Court of Claims	46	1
Neutrality (schooner), report of Court of Claims	321	1
Newcomer, Joshua, report of Court of Claims	266	1
Newlee, J. G., report of Court of Claims	46	1
New Orleans, La., Odd Fellows' Hall Association of, referred to Court of Claims	96	1
Newsom, Andrew J., estate of, report of Court of Claims	105	1
Nichols, Minerva J., and Frank D., executors, report of Court of Claims	34	1
Nicodemas, John and J. L., report of Court of Claims	72	1
Nixon, Henry C., referred to Court of Claims	130	1
Noland, Pearce, report of Court of Claims	268	1
Noland, William H., referred to Court of Claims	214	1
Norris, Nancy Jane, referred to Court of Claims	158	1
North American Ethnology, contributions to, vol. 7	26	21
Northrup, Charles, referred to Court of Claims	209	1
Oakley, E. C., administrator of, referred to Court of Claims	214	1
Official records of the war of the rebellion. (*See* War of the Rebellion.)		
Official Register (vol. 1), Legislative, Executive, Judicial	50	27
(vol. 2), Post-Office Department	50	28
Ogilvie, R. H., report of Court of Claims	206	1
Oglesby, L. S., referred to Court of Claims	238	1
Okolona, Miss., Independent Order of Odd Fellows of, referred to Court of Claims	118	1
Orendorff, Mary, report of Court of Claims	306	1
Orr, J. W., report of Court of Claims	307	1
Osborne, John, report of Court of Claims	332	1
O'Shea, P. T., referred to Court of Claims	119	1

Subject.	No.	Vol.
Ott, J. W., report of Court of Claims	132	1
Overton Hotel Company, referred to Court of Claims	85	1
Owens, W. B., report of Court of Claims	219	1
Paffinberger, Samuel, report of Court of Claims	294	1
Paillett, Hilliare, estate of, referred to Court of Claims	151	1
Pankey, James, report of Court of Claims	108	1
Pash, Benedict, report of Court of Claims	267	1
Parham, Richard H., administrator, report of Court of Claims	202	1
Parker, Rebecca V., referred to Court of Claims	151	1
Patterson, David K., referred to Court of Claims	118	1
Patrick, Marion, report of Court of Claims	46	1
Peeden, Martha J., administratrix, referred to Court of Claims	210	1
Pension laws, resolution to appoint members to codify, simplify, and arrange	318	1
Perry, O. H., administrator, report of Court of Claims	309	1
Peters, J. L., report of Court of Claims	95	1
Phillips, James B., referred to Court of Claims	245	1
Phœnix (schooner) report of Court of Claims	167 177	1 1
Pinkerton detectives, resolution of inquiry relative to employment of, by corporations	310	1
Pipkin, H., administrator, report of Court of Claims	291	1
Pope, Daniel S., *et al.*, referred to Court of Claims	175	1
Porche, Louis V., referred to Court of Claims	236	1
Porche, J. A., report of Court of Claims	222	1
Powell, Sarah A., referred to Court of Claims	81	1
Prichard, Catharine M., referred to Court of Claims	97	1
Private claims, report of Clerk of the House relative to indexes of	31	1
Provine, W. G., administrator, report of Court of Claims	40	1
Pulliam, F. J., report of Court of Claims	262	1
Quarles, Mary, report of Court of Claims	46	1
Rabot, Jean Baptiste, referred to Court of Claims	151	1
Randall, ex-Speaker Samuel J., presentation of portrait, proceedings in House	141	1
Randolph, A. M., referred to Court of Claims	115	1
Rosetta (brig), report of Court of Claims	204	1
Rather, James, referred to Court of Claims	216	1
Records of the War of the Rebellion:		
Atlas to	261	40
Vol. 33	12	2
Vol. 34, part 1	13	4
Vol. 34, part 2	13	5
Vol. 34, part 3	13	6
Vol. 34, part 4	13	7
Vol. 35, part 1	14	8
Vol. 35, part 2	14	9
Vol. 36, part 1	15	10
Vol. 36, part 2	15	11
Vol. 36, part 3	15	12
Vol. 37, part 1	16	13
Vol. 37, part 2	16	14
Vol. 38, part 1	48	22
Vol. 38, part 2	48	23
Vol. 38, part 3	48	24
Vol. 38, part 4	48	25
Vol. 38, part 5	48	26
Vol. 39, part 1	233	35
Vol. 39, part 2	233	36
Vol. 39, part 3	233	37
Vol. 40, part 1	338	46
Vol. 40, part 2	338	47
Vol. 40, part 3	338	48
Redwine, J. A., report of Court of Claims	235	1

Subject.	No.	Vol.
Reeves, George W., estate of, report of Court of Claims	128	1
Repley, E. W., referred to Court of Claims	151	1
Restle. Leger, referred to Court of Claims	84	1
Rhodes, Frank, report of Court of Claims	142	1
Rice, J. W., estate of, report of Court of Claims	292	1
Rice, W. H., referred to Court of Claims	120	1
Richards, Alonzo H., referred to Court of Claims	158	1
Roach, Benj., estate of, referred to Court of Claims	86	1
Robertson, Anthony, referred to Court of Claims	139	1
Robinson, Jehu, report of Court of Claims	135	1
Roe. J. A., report of Court of Claims	46	1
Romine, Mary, J., referred to Court of Claims	158	1
Roy, Vienna, referred to Court of Claims	139	1
Royston, Aaron, report of Court of Claims	287	1
Rules of House of Representatives	67	1
Rutledge, Mary J., referred to Court of Claims	158	1
Rutledge, Nancy, referred to Court of Claims	158	1
Russell, Jacob H., report of Court of Claims	230	1
St. Philips Church, Atlanta, Ga., referred to Court of Claims	129	1
Sanders, John C., administrator, referred to Court of Claims	213	1
Sanders, Samuel R., referred to Court of Claims	158	1
Sanders, W. W., referred to Court of Claims	151	1
Sanford, Martha Ann, referred to Court of Claims	127	1
Saunders, Edwin E., estate of, referred to Court of Claims	227	1
Scanlan, Mrs. W. H., referred to Court of Claims	149	1
Schwartz, A. J., administrator, report of Court of Claims	40	1
Scott, John D., referred to Court of Claims	128	1
Scott, Samuel, referred to Court of Claims	119	1
Scott, Mrs. W. A., referred to Court of Claims	214	1
Scoville, W. S., referred to Court of Claims	227	1
Sears, Rebecca, report of Court of Claims	102	1
Secretary of the Treasury, resolution requesting, to obtain and report facts relating to State canals	174	1
Sergeant-at-Arms, report of disbursements	6	1
report on property in possession of	7	1
Sessions, Franklin, referred to Court of Claims	118	1
Shacklett, H. W., report of Court of Claims	70	1
Shadel, Henry A., heirs of, referred to Court of Claims	227	1
Sheely, Mrs. Ann, referred to Court of Claims	148	1
Sheetz, Samuel, referred to Court of Claims	139	1
Shehan, Patrick, report of Court of Claims	252	1
Shepherdess (schooner), report of Court of Claims	203	1
Shipp, F. G., report of Court of Claims	101	1
Shoemaker, A. C. P., report of Court of Claims	218	1
Shoemaker, David, report of Court of Claims	125	1
Short, Hatcher and Hiram, referred to Court of Claims	114	1
Sigur, John A., referred to Court of Claims	150	1
Simerley, Mary E., referred to Court of Claims	131	1
Simmons, H. S., estate of, referred to Court of Claims	211	1
Simmons, J. W., referred to Court of Claims	128	1
Simpson, Cassa, referred to Court of Claims	210	1
Singleton, H. C., estate of, referred to Court of Claims	216	1
Sisco, Mary, administratrix, report of Court of Claims	263	1
Slate, Sarah, report of Court of Claims	222	1
Sloan, William, report of Court of Claims	46	1
Smallwood, Howard F., referred to Court of Claims	136	1
Smith, A. J., referred to Court of Claims	121	1
Smith, Dudley D., heirs of, referred to Court of Claims	227	1
Smith, G. W., report of Court of Claims	122	1
Smith, James W., referred to Court of Claims	138	1
Smith, Nancy C., referred to Court of Claims	116	1
Smith, Vasti, referred to Court of Claims	130	1

Subject.	No.	Vol.
Smithsonian Institution, statement of Secretary of, on expenditures for fiscal year of 1891	28	1
Smithsonian Reports (1891), part 1	334	43
Smithsonian Reports (1891), part 2	334	44
Snyder, James A., executor, referred to Court of Claims	138	1
Snyder, John, report of Court of Claims	193	1
Solair, Fannie, referred to Court of Claims	148	1
Soutter, William R., referred to Court of Claims	165	1
Sparks, D. M., estate of, referred to Court of Claims	121	1
Spates, G. W., report of Court of Claims	193	1
Speakers Grow and Randall, presentation of portraits of	141	32
Speck, David, referred to Court of Claims	138	1
Sprich, Albert H., report of Court of Claims	40	1
Standiford, David, report of Court of Claims	218	1
Starn, Levi, referred to Court of Claims	110	1
State canals, resolution requesting Secretary of the Treasury to ascertain facts	174	1
Steele, J. and J., report of Court of Claims	41	1
Stiff, Martha, referred to Court of Claims	228	1
Store, John, estate of, report of Court of Claims	69	1
Stork, Conrad, referred to Court of Claims	140	1
Stover, Abraham, referred to Court of Claims	138	1
Stowers, Samuel, report of Court of Claims	282	1
Stutts, George W., report of Court of Claims	277	1
Sugar trust, resolution requesting information of Attorney-General	215	1
Summers, Margaret, referred to Court of Claims	119	1
Sutton, S. J., report of Court of Claims	52	1
Swartz, David, referred to Court of Claims	139	1
Sweating system. *See* Labor.		
Talbott, Jacob J., referred to Court of Claims	208	1
Talley, Robert, report of Court of Claims	113	1
Tariff, resolution that Committee on Agriculture investigate effect of, on agriculture	73	1
Tatin, Jean Marie, referred to Court of Claims	151	1
Taylor, Edward H., administrator, report of Court of Claims	257	1
Taylor, George W., estate of, referred to Court of Claims	138	1
Taylor, Jane, estate of, referred to Court of Claims	303	1
Taylor, Thomas W., report of Court of Claims	251	1
Taylor, William E., referred to Court of Claims	158	1
Taylor, William H., report of Court of Claims	244	1
Telletor, E. W., referred to Court of Claims	130	1
Tenement-house labor. *See* Labor.		
Thacher, Thomas, report of Court of Claims	171	1
Thomas, A. R., report of Court of Claims	52	1
Thomas, B. R., report of Court of Claims	269	1
Thomas, Wilkin, report of Court of Claims	40	1
Thompson, George W., referred to Court of Claims	139	1
Thompson, Lewis, executor of, referred to Court of Claims	168	1
Throckmorton, Hugh W., report of Court of Claims	288	1
Thurman, J. G., report of Court of Claims	46	1
Tillman, Francis, report of Court of Claims	157	1
Timberlake, S. R., referred to Court of Claims	214	1
Tolson, John J., administrator, referred to Court of Claims	237	1
Towsend, Peter, report of Court of Claims	219	1
Traweek, Mrs. E. L., referred to Court of Claims	126	1
Tucker, E. J., report of Court of Claims	253	1
Tucker, T. M., estate of, referred to Court of Claims	81	1
Tuscumbia, Ala., Masonic Lodge of, referred to Court of Claims	120	1
Two Sisters (ship), report of Court of Claims	231	1
Underwood, John C., referred to Court of Claims	212	1
Union (sloop), report of Court of Claims	205	1
Union (vessel), report of Court of Claims	281	1
United States Geological Survey. *See* Geological Survey.		

Subject.	No.	Vol.
Unsell, David, estate of, report of Court of Claims	38	1
Utah, report of the commissioner of schools of	47	1
Letter from chairman of Utah Commission respecting operation of Industrial Christian Home Association of	104	1
Vallean, Sarah J., referred to Court of Claims	151	1
Vaughn, Walker, report of Court of Claims	132	1
Vauquah, Louis, referred to Court of Claims	83	1
Verdin, Romain, referred to Court of Claims	150	1
Vernon, A. B., report of Court of Claims	251	1
Victor (schooner), report of Court of Claims	197	1
Vignes, Polona, referred to Court of Claims	151	1
Wakefield, Molisa O., referred to Court of Claims	158	1
Walker, Julius, referred to Court of Claims	128	1
Walker, Osborn, report of Court of Claims	78	1
Walker, Sandy, report of Court of Claims	301	1
Walker, T. J., referred to Court of Claims	214	1
Wallace, Thomas, referred to Court of Claims	127	1
Walls, Joseph L., report of Court of Claims	42	1
Warr, A. V., Ex., report of Court of Claims	286	1
Washington and Arlington Railway Company, annual report of	43	1
Washington and Georgetown Railroad Company, annual report	56	1
Wasson, Richard F., referred to Court of Claims	213	1
Watkins, Nancy J., referred to Court of Claims	120	1
Webb, T. H., report of Court of Claims	78	1
Webb, William S., referred to Court of Claims	120	1
Weitinger, John, report of Court of Claims	232	1
Welck, Benjamin, report of Court of Claims	72	1
Wells, George H., report of Court of Claims	284	1
Wells, James, heirs of, referred to Court of Claims	299	1
Wesson, J. W., report of Court of Claims	78	1
Westmoreland, Mary N., referred to Court of Claims	210	1
Whitaker, William, referred to Court of Claims	119	1
White, B. K., report of Court of Claims	74	1
White, Thomas W., referred to Court of Claims	111	1
White, W. B., report of Court of Claims	315	1
White, Zachariah J., referred to Court of Claims	172	1
Wilhite, H., report of Court of Claims	322	1
Wilkes, Benjamin, referred to Court of Claims	147	1
Wilkes, Francis, referred to Court of Claims	210	1
Williamson, A. O., referred to Court of Claims	210	1
Williams, Harry, report of Court of Claims	52	1
Willis, Edward B., estate of, referred to Court of Claims	119	1
Wilson, R. T., report of Court of Claims	132	1
Wilson, Thomas W., referred to Court of Claims	158	1
Wirtz, William, estate of, report of Court of Claims	182	1
Withers, H. M., report of Court of Claims	42	1
Wolfson, Caroline L., referred to Court of Claims	217	1
Woodson, Tarleton, report of Court of Claims	241	1
Woody, H. T., report of Court of Claims	42	1
World's Columbian Exposition, resolution for inquiry into expenditures, etc	68	1
Wright, Eliza (brig), report of Court of Claims	204	1
Wurtele, Jacob, report of Court of Claims	294	1
Wysong, James, report of Court of Claims	74	1
Wytsinger, John, referred to Court of Claims	210	1
Young, Joseph, report of Court of Claims	156	1
Youngblood, Mrs. Sarah E., referred to Court of Claims	259	1
Yuckley, G. W., report of Court of Claims	42	1
Zaddock, Meador, referred to Court of Claims	130	1

52D CONGRESS, 1st Session. } HOUSE OF REPRESENTATIVES. { MIS. DOC. No. 154.

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ON

COMMERCE, MANUFACTURES, ETC.

No. 132.—SEPTEMBER, 1891.

FREE PORT AT COPENHAGEN.

REPORT BY MINISTER CARR.

Referring to my report of April 3, 1891,* in which I gave a description of the new free port now being created there at great expense, I have the honor to inclose herewith a printed copy of a report on the same subject by Her Britannic Majesty's minister at Copenhagen, Mr. Hugh McDonnell, which he has kindly sent me.

CLARK E. CARR,
Minister.

UNITED STATES LEGATION,
Copenhagen, July 13, 1891.

THE BRITISH MINISTER'S REPORT ON THE FREE PORT AT COPENHAGEN.

[Inclosure in Minister Clark's report.]

Now that a company has been definitely constituted for the working of the free port at Copenhagen, it may perhaps be convenient that I should complete my previous reports by laying before Your Lordship the following supplementary remarks on this interesting subject:

The origin of the scheme for erecting Copenhagen into a free port must, no doubt, be sought in the fears, very naturally entertained, that the canal now in course of construction through Holstein, from the North Sea to the Baltic, might, by attracting trade to the North German ports, in a great measure neutralize the many advantages which Copenhagen has hitherto derived from its unrivaled geographical position as regards facilities of commercial intercourse with the ports of Prussia, Russia, Finland, and Sweden. Owing to this highly commodious situation, a free port easy of access at the natural entrance of the Baltic must, no doubt, greatly tend to enhance the importance of this place by creating here a central emporium for the commodities of western Europe and of America, from which the Scandinavian countries and the Baltic ports may be expected to draw their supplies.

It is the belief of the originators and promoters of this enterprise that the merchants of the Baltic will not be slow to avail themselves of the considerable advantages thus offered by

* In CONSULAR REPORTS No. 129, p. 234.

a harbor comparatively free from ice in midwinter, where their goods may be warehoused for future export, free of duty, on payment of storage dues based upon a liberal tariff; and it is also expected that the Copenhagen merchants will purchase more largely as transit traders or for the purpose of manufacturing on the spot.

Arrangements will likewise be made by which loans or advances on goods will be obtainable on easy terms, and no efforts will be spared to attract vessels to the port, so as to secure shipments at low freights when profitable sales can be effected.

The possibility is also contemplated of transatlantic steamers, owing to the small depth of water in some of the Baltic ports, finding it more profitable to make Copenhagen their terminus, thus saving time and expense and avoiding the risks inseparable from a voyage into the Baltic, at the same time leaving the distribution of their cargoes amongst the shallow ports of that sea to be effected by the merchants of this place.

It is understood that the Holstein Canal will be completed in 1895, and it therefore becomes imperative that every endeavor should be used to open, at least partially, the free harbor of Copenhagen to traffic within the next 3 or 4 years.

The free port will be situated at the northern extremity of the present harbor and to the west of the inner roads. The entrance, protected seaward by piers and breakwaters, will be 300 feet in width and at the northern end of the port, thus affording direct communication with the sound.

The depth of water will be from 24 to 26 feet throughout, eventually to be increased in the largest of the basins or docks, of which the port will comprise three. These will be surrounded by commodious quays and wharves, to which access will be facilitated by steam ferries.

Owing to the absence of tides in the sound, the depth of water will not be subject to variations by more than 2 feet, according to the direction of the wind, and no special appliance will be requisite to retain the water in the basins.

The water area of the free port will be about 54½ acres, surrounded by some 10,000 feet of wharves or quays, while the area of the ground comprised will measure about 82,000 acres; but this space may be considerably increased if necessary. The entire area thus occupied will be inclosed, and is to be treated as lying outside the customs territory of Denmark.

The free port will be connected with the custom-house of Copenhagen by a railway and carriage road, which will also be fenced off and under custom surveillance. A goods terminus in conjunction with the general railway system of the country and a steam ferry for the conveyance of trains to and from the neighboring coast of Sweden will afford every facility for the movement of freight and passengers.

Modern appliances of perfected mechanism will be available at the wharves and in the warehouses for loading and discharging cargoes and for the transshipment of goods, while that portion of the ground not in use will be let out for the erection of factories and workshops.

The undertaking has been placed in the hands of the Copenhagen harbor board, working in connection with a private company.

The board has already disbursed 4,500,000 kroner on various works connected with the present port of Copenhagen, which it is intended shall eventually form part of the free port; but it is estimated that a further outlay of at least 9,000,000 kroner will have to be incurred. At the same time the private company, which is to have the entire management of the port. buildings, warehouses, machinery, etc., is prepared to meet a further expenditure of 4,000,000 kroner, and this sum has, it is understood, been already placed at its disposal by various banks in this place. Thus the total cost of the undertaking may be put down at 17,000,000 to 18,000,000 kroner (£1,000,000), but doubts are entertained in some quarters as to the sufficiency of the sum.

The free port will remain the exclusive property of the company for a term of 80 years under a royal commission. During that time the company will have the entire control and

management of the port, with this limitation, that after the expiration of the first 25 years the harbor board—representing the State—has the right of redemption on payment of the shares at their average value during the previous 10 years, not, however, below par and not at a higher premium than 125 per cent.

The State assists the harbor board in raising its share of the necessary capital by a guaranty of the interest and installments towards the extinction of the debt on 8,000,000 kroner, against the undertaking remaining under the supervision and control of the minister of the interior and of the Rigsdag.

The yearly net proceeds, after payment of all charges, are to be apportioned between the harbor board and the shareholders of the company in accordance with the terms stipulated in the concession.

Vessels entering the port will be exempted from the payment of shipping dues to the State and of the harbor dues now claimed by the harbor board. They will only be charged, at a moderate rate, for the use of the wharves, machinery, etc.

The space within the free port will be exempt from all taxation; neither will the State be entitled to claim any taxes on buildings erected by the company within its precincts, nor will the municipality be empowered to levy any taxes whatsoever therein.

Goods or merchandise carried into or landed in the free port will be exempt from duty or other imposts for customs purposes; they may, however, be dispatched seaward in the same condition or after having undergone manufacture, manipulation, sorting, or sampling without being subjected to any sort of duty.

Goods passing from the free port to the Danish customs territory will be liable to similar duties as if imported from a foreign country, and will, moreover, be subjected to the payment of a pro rata tax corresponding to the harbor dues leviable in the port of Copenhagen on the vessels in which they are conveyed.

The charges for warehousing and for the use of stores will be regulated by a tariff sanctioned by the Government, and dock warrants will be issued for goods so warehoused, so as to facilitate their sale or mortgage.

Warehouse rent and charges for wharfage, lighting, steam-power, etc., will be fixed at a rate below those prevailing in the free ports of Hamburg and Bremen.

A depot of English coal will be kept fully provided and supplies furnished at lowest rates.

The docks will be open day and night.

Banking facilities are promised by the financial houses connected with the undertaking.

Large spaces in close proximity to the wharves will be available at a moderate rent in leases running up to 80 years for the erection of manufactories and other industrial establishments, while electric light, water, telephonic communication, and motive power will be supplied at a nominal charge.

Building material for the erection of such establishments and the machinery necessary for their working will be imported duty free.

It is likewise the intention of the Danish authorities to treat foreigners as regards licenses with the greatest liberality.

According to the laws of this country, no income or other personal tax can be claimed from such foreign firms or companies who, while carrying on business within the free port, retain their domicile in other countries. Persons employed in the free port who fix their residence in Copenhagen outside its boundaries will, of course, be liable to the payment of income tax and other municipal taxes.

Within the precincts of the port every kind of industrial pursuit may be carried on, with the exception of such industries as are devoted to the manufacture of goods themselves exempt from customs duty, but the raw material for which would be subject to duty, or, again, where the duty on the raw material exceeds the duty on the manufactured article. This applies especially to the printing and bookbinding industries, to the manufacture of margarine, and of artificial manures.

It may be observed that the free port, being situated in close proximity to the capital, with its population of 350,000 to 400,000 inhabitants, labor will be procurable at a lower rate of wages than that prevailing in most other countries.

As to whether the expectations of the originators and promoters of this scheme are likely to be fulfilled, it would be venturesome to offer an opinion.

Much, no doubt, depends on the advantages held out by the Holstein Canal. If it be true of the latter undertaking—which has, I believe, been carried out regardless of expense—that it has been designed solely for strategic purposes, and that the dues to be levied on shipping making use of its water way are to be based on a tariff bearing any relation to the sums expended on its construction, then there can be no question that vessels will find it more profitable to enter the Baltic by the old route round the Skaw, and also safer, if any reliance can be placed in the doubts entertained as to whether the approaches to the canal are devoid of danger in winter. On the other hand, if the dues to be levied are comparatively moderate, then the calculations of the promoters of the Copenhagen scheme may be at fault.

The project is certainly one of no small dimensions, and a careful study of the plan would lead to the conclusion that, if success attends the undertaking, it has not been designed on a corresponding scale.

To recapitulate, the principal objects aimed at are:

(1) To facilitate and develop such transit trade as already exists in Copenhagen by reducing to a minimum all loading and discharging expenses and by removing those trammels to trade inseparably connected with the collection of dues and the interference of customs officers.

(2) To assist such industries as have a chance of thriving here to compete in neutral markets by allowing the erection of works and the carrying on of manufactures within the area of the free port, thereby saving all unnecessary trouble and loss of time and expense in first clearing the raw materials liable to duty and conferring advantages likely to surpass those offered by the present drawback system, which, even if calculated with the utmost fairness, never entirely corresponds to the import duty on raw material, since waste, breakage, etc., during manufacture are not taken into account.

It would seem safe, then, to admit that the general facilities offered to trade by the present scheme must be productive of beneficial results, and that the abolition of harbor dues must attract to the port a much larger amount of shipping than has at any previous time frequented it.

That it can not fail to give a favorable impulse to the commerce of this place can hardly admit of a doubt, but whether it will prove profitable to our transit trade to the Baltic is another question.

COPENHAGEN, *May 27, 1891.*

FIBER-CLEANING MACHINES IN THE BAHAMAS.

REPORT BY CONSUL McLAIN, OF NASSAU.

The development of the fiber industry in this colony, concerning which I have made several reports to the Department, has already necessitated the introduction of machines for separating the fiber from the leaf of the sisal, or pita, plant; and the demand for other machines in the future will be very great.

The machines heretofore in use are of English manufacture principally, and they do not seem to have satisfactorily met the requirements of the case. In using these machines the leaf is presented to a scraping wheel, which removes the pulp, gum, etc., from about three-fourths the length of the leaf, leaving the fiber cleaned from that portion. The leaf is then withdrawn,

and the other end is presented to the wheel and cleaned in the same manner. The cleaning of each leaf thus requires two handlings by the operator, making the entire process tedious and expensive. The method is unsatisfactory, and persons interested have been looking for something better in this line.

During the month of June two Americans arrived in the colony, bringing with them and introducing a new automatic fiber-cleaning machine. These gentlemen were Messrs. T. Albee Smith, of Baltimore, and W. A. Keene, of St. Louis, the former being the patentee of the machine. It was announced that on the 25th of June the public would be invited to witness the operation of the machine; and on that day a large number of persons interested in the fiber industry were present, including representatives from many of the out islands, where the largest plantations are being cultivated. Considerable difficulty was experienced in getting the machine running to good advantage, owing to the fact that the somewhat old steam plant used was defective, and the pulleys and belts were not of proper size, width, etc. But, despite these drawbacks, the operation of the machine was decidedly satisfactory, and nearly all present were of the opinion that, under proper conditions, the machine would easily do all that was claimed for it, and that it was a most valuable improvement over all other machines in use in the colony.

The new machine is entirely automatic. It grips the leaves continuously as fast as the operators can supply them, holds them firmly during the operation of cleaning, and delivers the fiber, completely and beautifully cleaned, at the reverse side. No reversing of the leaves or of any part of the machinery is required. The operator simply supplies the leaves, and the machine does all the rest. It works smoothly, easily, and rapidly. Its capacity is enormous. One of the hand machines heretofore used here will clean about 3,000 leaves in 10 hours, extracting 180 pounds of fiber; this automatic machine is said to be capable of cleaning 50,000 leaves per day, extracting therefrom 3,000 pounds of fiber. Skilled labor is not required to use the machine; an engine of 8 horse-power will furnish all the motive power required to run it at full speed. It is not a complicated affair, nor easy to get out of order. Its weight is about 6,000 pounds.

The exhibition may be said to have been very satisfactory to all concerned, and so well pleased were those who witnessed the operation that a number of prominent producers and shippers of the fiber joined in a very flattering testimonial to Messrs. Smith and Keene.

As the sisal plantations are mostly new and can not come into general bearing under 2 or 3 years hence, this ingenious machine, on account of its enormous capacity, can scarcely be used with advantage in this colony at present; but in countries where the supply of leaves is ample it will doubtless be rapidly and extensively introduced.

THOS. J. McLAIN,
Consul.

UNITED STATES CONSULATE,
Nassau, July 10, 1891.

EUROPEAN TARIFFS ON AGRICULTURAL PRODUCTS.

Pending the publication by the Department of the new edition of foreign tariffs, the following statement, showing the rates of duties levied by the several European countries on imported agricultural products, as compiled from recent consular reports, is herewith published:

Table showing European tariffs on agricultural products.

Articles.	Duty.
*Austria-Hungary.**	
Live animals:	
Oxen.....per head...	$7.20
Steers.....do.....	1.92
Hogs.....do.....	1.44
Sheep.....do.....	.24
Breadstuffs:	
Barley and oats.....per 100 kilos...	.36
Indian corn.....do.....	.24
Rye, wheat, and malt.....do.....	.72
Flour.....do.....	1.80
Provisions:	
Meats of all kinds.....do.....	2.88
Lard.....do.....	7.60
Butter.....do.....	4.80
Cheese.....do.....	9.60
Tobacco, leaf.....do.....	10.68
Vegetables, canned.....do.....	19.20
Belgium.	
Live animals:	
Bulls and bull calves.....per kilo...	.00½
Oxen and bullocks.....do.....	.01
Sheep.....per head...	.48
Breadstuffs.....	Free.
Provisions:	
Fresh meat (whole or half carcasses) .....per kilo...	.03
All other meats, salted, smoked, etc.....	Free.
Lard, butter, and cheese.....	Free.
Tobacco, leaf.....per 100 kilos...	13.50
Vegetables.....	Free.
Denmark.	
Live animals.....	Free.
Breadstuffs.....	Free.
Provisions:	
Meats—	
All sorts, except canned.....	Free.
Canned.....per 100 pounds...	4.00
Lard and butter.....	Free.
Oleomargarine.....per 100 pounds...	1.70
Cheese.....do.....	2.78
Tobacco:	
Leaves and stems.....do.....	4.00
Smoking, chewing, etc.....do.....	5.60
Vegetables:	
Preserved in vinegar or salted.....do.....	.57
In cans.....do.....	4.00
*France.**	
Live animals:	
Oxen.....per head...	$7.33
Cows.....do.....	3.86
Sheep.....do.....	.96
Hogs.....do.....	.19
Breadstuffs:	
Wheat.....per 100 kilos...	.97
Flour.....do.....	1.54
Barley.....do.....	.29
Rye.....do.....	.58
Indian corn.....	Free.
Provisions:	
Meat—	
Fresh.....per 100 kilos...	2.32
Salted.....do.....	1.64
Canned.....do.....	1.54
Extracts.....do.....	.77
Cheese—	
Soft.....do.....	1.16
Hard.....do.....	1.54
Butter—	
Fresh.....do.....	2.50
Salted.....do.....	2.90
Lard.....	Free.
Tobacco (Government monopoly).....	Free.
Vegetables:	
Green.....	Free.
Preserved.....per 100 kilos...	.58
Germany.	
Live animals:	
Horses.....each...	4.76
Oxen.....do.....	7.14
Sheep.....do.....	.24
Breadstuffs:	
Wheat and rye.....per 100 kilos...	1.19
Oats.....do.....	.95
Flour and corn meal.....do.....	2.50
Buckwheat.....do.....	.48
Barley.....do.....	.54
Maize.....do.....	.48
Malt.....do.....	.95
Provisions:	
Butter and cheese.....do.....	4.76
Meat, fresh and prepared.....do.....	4.76
Fowl and game.....do.....	7.20
Tobacco, leaf.....do.....	20.23
Sugar, cane.....do.....	7.14

*American pork prohibited.

Table showing European tariffs on agricultural products—Continued.

Articles.	Duty.
Holland.	
Meats:	
Bacon, pork, and mutton—	
Salted	Free.
Dried, smoked, etc....per 100 kilos	$0.40
Other than above—	
Salted ....do	2.41
Dried, etc....do	3.21
Fruit:	
Fresh	5 per ct.
Canned....per 100 kilos	7.24
Live animals	Free.
Cereals	Free.
*Italy.**	
Animals:	
Oxen....per head	7.33
Sheep....do	.57
Horses....do	Free.
Breadstuffs:	
Oats....per 100 kilos	.77
Rye....per ton	2.21
Wheat....do	9.66
Barley....do	2.21
Indian corn....do	2.21
Flour....per 100 kilos	1.68
Fruit:	
In sugar, etc....do	19.30
In own juices....do	3.86
Provisions:	
Meats—	
Fresh....do	2.31
Salted, smoked, etc....do	4.83
Lard....do	1.93
Butter—	
Fresh....do	2.31
Salted....do	3.38
Cheese....do	2.31
Poultry....do	.96
Portugal.	
Wheat....per 100 kilos	1.72
Flour....do	2.46
Other cereals....do	1.51
Cattle....per head	2.70
Hogs....do	1.64
Horses....do	2 per ct.
Portugal—Continued.	
Butter....per kilo	$0.20
Lard....do	.11
Cheese....do	.21
Beef:	
Dry....do	.03½
Other....do	.11
Russia.	
Flour....per 36 pounds	.06
Starch....do	.60
Rice:	
Cleaned....do	.42½
Uncleaned....do	.25
Meats....do	.47½
Cheese....do	3.00
Butter and lard....do	.25
Live animals	Free.
Spain.†	
Cattle....per head	7.72
Swine....do	3.86
Sheep....do	.46
Salted and dried meats....per 100 kilos	2.24
Pork, lard, bacon, and hams....do	9.65
Other meats....do	3.47
Rice:	
Cleaned....do	2.05
Uncleaned....do	1.02
Wheat....do	1.54
Flour:	
Wheat....do	2.55
Other....do	1.38
Tobacco, in leaf....per kilo	3.12
Sweden.	
Cattle....per head	2.68
Sheep....do	.28
Meats....per 100 kilos	.95
Butter....do	2.72
Lard....do	2.72
Cheese....do	2.72
Barley, rye, and wheat....do	.67
Flour....do	1.15
Indian meal....do	2.14
Oats....do	2.68

* American pork prohibited.

† All food imports are subject, also, to "transit and consumo duties."

The tariff rate in Turkey is 8 per cent. ad valorem; American pork is prohibited.

BUREAU OF STATISTICS, DEPARTMENT OF STATE,

September 15, 1891.

SUGAR INDUSTRY OF SANTIAGO DE CUBA.

REPORT BY CONSUL REIMER.

The district embraced in the following report comprises the jurisdictions of Santiago de Cuba, Guantanamo, and Manzanillo.

This year's enormous sugar crop of the island of Cuba—827,000 tons, against 560,000 tons last year—clearly demonstrates the wonderful agricultural resources and possibilities of this island. Although this, it might be said, unprecedented increase can largely be attributed in the western end of the island to more favorable climatic influences—rains while the cane was growing and occasional showers and great heat during crop time—it must also be admitted that, slowly but surely, sugar-producing on the island of Cuba is becoming as much a science as a business. Competition has done this, and with it has produced new labor-saving inventions, which reduce the cost of the product. The most notable of these inventions is the bagasse-burner, which enables the planter to use as fuel for his boilers the wet bagasse as it comes from between the rollers of his cane mill. It is with pride that we can say that the only wet-bagasse burners so far in use and proved to be absolutely practicable are of American invention and patent.

Owing to a drought such as has not been experienced here for many years, and with many estates also the lack of capital to introduce new machinery, the crop of this consular district, with the sole exception of Manzanillo, has shown a marked decrease as compared with last year's figures (see statement herewith). This drought not only has meant a cost equal to the expense of making a full crop, but also great loss in hauling and working cattle, and no doubt both here and in Guantanamo retards the speedy introduction of improvements in the way of machinery. With a soil so prodigal in its fertility, the sugar industry in this consular district only lacks the impetus which capital can give it to produce double and more the present crop; and, as commercial relations between our country and Spain will no doubt put the planter on a more prosperous basis, the future of this business looks bright.

Owing to the introduction of foreign labor to work the mines of this consular district, which mines formerly absorbed a great deal of the laboring force available, the dearth of laborers has not been so great this year as last; but, notwithstanding this, wages have, as a general thing, not decreased from last year's prices.

The jurisdiction of Santiago contains nine sugar estates, most of which are handicapped by excessive railroad freight and large hauling expenses. One, the largest, has a bagasse-burner invented by an engineer on the estate and made in France. Two have two three-roller mills, and the others, as a rule making small crops, have old machinery with very few improvements. As a rule the machinery at present in use here is imported as follows: Grinding mills from England and France; defecators from France and Eng-

land equally; evaporating machinery (triple effects, etc.), from France and England. Lately American machines have been introduced and will find a ready sale here. The centrifugals are all of American patent (Hepworth & Westons), although some of these are manufactured in Europe. Rum stills all come from Europe or made locally. Engines are mostly English and French. Boilers hitherto were mostly of English and French manufacture, but now the Babcox & Wilcox boilers are being introduced; and, as it seems that this firm does not sell any of the Cook's patent wet-begasse burners except with their boilers, and as the prominent estates that do not have these burners will almost be compelled to introduce them for next crop, the sale of American patented boilers will increase rapidly, especially now with the concession of the new Spanish treaty. These facts as regards machinery also apply to Manzanillo and Guantanamo. The different conditions in which each separate estate is placed—the differences of distance from the seaboard and railroads, some with very old, others with newer and new, machinery—make it most difficult to form an estimate of the cost of sugar-producing. We must in consequence take as an average an estate with improved machinery cultivating 1,000 acres of cane fields, each acre producing 26 tons of cane and yielding from each ton of cane, say, 200 pounds centrifugal sugar and 13 pounds molasses sugar, not producing molasses, but rum instead. Such an estate would be a fair average in this consular district, although some in Manzanillo and Guantanamo, and even here, produce more cane and get a higher percentage of sugar.

It is well here to mention the question of fuel. Old estates that have exhausted their supply in the immediate vicinity of the sugar house have been known to pay as high as $3 per ton for wood for fuel. Bagasse-burners have done away with this expense, and, as it has been proved, pay for themselves in two crops in the saving of fuel.

Land suitable for sugar-cane cultivation is worth, in this consular district, from $12.50 to $35 per acre, according to its distance from the seaboard and transporting facilities for the product it may produce. This value can be easily determined by calculating the average yield of cane, its cost of production and conversion into sugar, and the consequent cost of conveying such sugar to the seaboard in carts and by rail.

An estate having all modern machinery except the bagasse-burners (I do not take as a model an estate with bagasse-burners to show the great advantage this invention has proved to be) will grind in a fair season and under ordinary circumstances in, say, 100 days, 60,000 quintals of sugar, the yield of 1,000 acres of sugar cane, of which sugar an average of 90 per cent. is centrifugal and 10 per cent. is molasses sugar—this with two three-roller mills, defecators, evaporators, centrifugals, etc.

We have now reduced this problem to the question, if 1,000 acres of cane produce 60,000 quintals of sugar at a cost which is detailed below, how much does 1 cwt. of sugar cost on the estate ready for shipment?

Having already mentioned the average cost of land, the writer estimates the cost of preparing it to yield a crop of cane within the year, canes being planted in May, June, and October, to be:

	Per acre.
Clearing	$16
Planting and weeding	34
Cultivating, etc	10
Total	60

These expenses, especially the one of clearing new land, can not be included in the actual cost of the crop, but must be numbered with the capital actually invested on which the planter desires to make his profit.

An estate, in order to make these 60,000 quintals in 100 days, has the following expenses, annual expenses belonging to each crop, as one crop is made per year:

Manager of estate, salary per annum	$2,000
General foreman, salary per annum	1,200
Bookkeeper, salary per annum	720
Timekeeper, salary per annum	600
First engineer, salary per annum	2,400
Cane-weigher, salary for 6 months	360
6 foremen in cane fields at, say, $480 per annum	2,880
300 head of cattle at an average loss of 10 per cent. (this, of course, last year, owing to the drought, has been much greater), good hauling cattle being worth about $34 per head, say 30 head	1,020
Interest on investment of cattle at 12 per cent. per annum	1,224
Cost of cultivation of cane at the rate of $10 per acre of cane which yields 26 tons of cane, giving, say, 180 gallons of from 8.82 to 9.09 pounds weight and 200 pounds centrifugal and 13 pounds molasses sugar	10,000
Interest on investment and repairs on 40 carts worth $102, each 12 per cent	460
Cutting cane at, say, 40 cents per ton	12,800
Loading on carts at 20 cents per ton of cane	6,400
Hauling to mill (this with bulls and carts of the estate), 40 cents per ton	12,800
Sugar house.	
3 or 4 assistant engineers at $60 to $75 per month during crop time	1,000
Stokers, 5 cents per 1,000 pounds of sugar made	3,000
Fuel, say on an average 3,000 tons at the average price of $2.25 per ton	6,750
Handling bagasse, $10 cents per 100 pounds of sugar made (with bagasse-burners this expense is completely done away with, and this at comparatively small cost, say $15,000 to $20,000)	6,000
Sugar-boiler, 2½ cents per 100 pounds of sugar made	1,500
Under sugar-makers, 16 men at $1 per day for 100 days	1,600
Purging department, including centrifugals:	
54,000 quintals centrifugal sugar at 2½ cents per quintal	1,350
6,000 quintals molasses sugar at 4 cents per quintal	240
Bagging bags (holding about 300 pounds), sewing and handling on the estate, 30 cents per bag	6,000
Dwelling house of manager and assistant, $200 per month	2,400
Cost of crop at estate	84,704

As the cost of machinery is growing less every year and new inventions are constantly made, it would be impossible to give an idea of the value of sugar estates in this consular district, and consequently interest on the amount of capital invested can not be included in the above calculation.

Referring again to the fuel question, as 1 ton of coal represents 3 tons of dry and 5 tons of wet fuel and the import duty here has been taken off by our treaty, it may be profitable to import coal from the United States, especially to those estates having no bagasse-burners and which exhaust all their available fuel very rapidly.

As is seen by statement herewith, no molasses is made in this jurisdiction and Guantanamo and very little in Manzanillo. Almost all estates have stills, in which they make rum of the refuse molasses. Owing to lack of data and statistics, it is impossible to state how much rum a certain quantity of molasses will give. An estate grinding 26,000 tons of cane and making 60,000 quintals of sugar can produce, say, from 36,000 to 40,000 gallons of rum 32° Cartier at a cost of, say, $1.50 per puncheon of 120 gallons, to which has to be added the cost of the empty puncheon and also interest on value of stills. Some stills are made by local coppersmiths; the more perfect ones are made in France. The production of rum is: Santiago de Cuba, about 1,500 puncheons; Guantanamo, about 2,800 puncheons; total in consular district, 3,300 puncheons. The greater part of this rum has been shipped to England and sells (costs, freight, and insurance) at 1*s.* 8*d.* per imperial proof gallon, which leaves net here about 24 cents per American gallon. In former crops this rum was consumed and sold here.

A system of cultivating cane largely in use in Manzanillo, and also introduced lately in Guantanamo and here, is the colonist system. In other words, the estate, instead of cultivating its own cane, buys it from the colonist, giving 100 pounds of centrifugal sugar for 1 ton of cane delivered at and on the conductor of the mill.

We now come to an item of much importance to the sugar-planter, the cost of transportation on board the vessel. In this respect the estates in this jurisdiction of Santiago de Cuba are at a disadvantage, most of these being distant from the railroad and having in consequence to pay heavy carting expenses, and railroad freights are also comparatively high. It is estimated that the cost of transportation here and in Guantanamo is: Carting to railroad, per kilometre, 2 to 3 cents per 100 pounds; railroad freights, per kilometre, 1 cent per 100 pounds; storage, 5 cents per 100 pounds; lighterage, drayage, and handling, 7 cents per 100 pounds. Ocean freights have varied from 10 to 18 cents per 100 pounds to United States ports.

Guantanamo has 15 estates, of which 2 are near and on the bay, thus saving the above transportation expenses.

The 9 estates of Manzanillo are all situated on the coast from Cape Cruz to Manzanillo. The fact that this jurisdiction has since 1887 increased its production 100 per cent. tends to show that new estates have been established. Hence sugar, with modern machinery and all improvements, can

be made much cheaper there than here and by some estates in Guantanamo. These new estates are owned by American and English capitalists, and have given the largest yield of sugar (111,000 quintals each) of any estates in this consular district.

It is stated that the present crop of sugar has been sold at the average price (costs and freight) of $3.12½ per 100 pounds, and we can calculate that the average cost of producing sugar and putting it where it will yield the above price is:

	Per 100 pounds.
Santiago de Cuba	$2.50 to $3.25
Guantanamo	2.00 to 3.00
Manzanillo	1.75 to 2.50

These prices are for this short crop and can not be taken as an average, as under more favorable circumstances they may be reduced.

So far, owing to sufficient rains and great heat this summer, the outlook for the next crop is most favorable, and everything up to the present writing promises a very large crop.

Our new treaty with Spain, apart from sugar machinery, locomotives, and rolling stock, will cause planters to secure their steel rails, hitherto purchased in England, from the United States.

Table showing the sugar crop in the consular district of Santiago de Cuba in 1890–'91.

Ports.	Sugar shipped to—				
	United States.	Coastwise.	British provinces.	Spain.	Sundries.
	Quintals.	*Quintals.*	*Quintals.*	*Quintals.*	*Quintals.*
Santiago de Cuba	241,716	11,209	700	1,142	30
Guantanamo	415,521	73,098	.....	.....	.....
Manzanillo	411,862	76,481	.....	19,151	.....
Total	1,069,099	160,788	700	20,293	30

Ports.	Sugar on hand June 30.	Estimated consumption.	Total crop of 1890–'91.	Total crop of 1889–'90.
	Quintals.	*Quintals.*	*Quintals.*	*Quintals.*
Santiago de Cuba	29,203	20,000	304,000	355,700
Guantanamo	69,381	10,000	568,000	773,700
Manzanillo	29,429	30,000	566,923	495,115
Total	128,013	60,000	1,438,923	1,624,515

The total crop of 1890–'91 was divided as follows:

Districts.	Centrifugal sugar.	Molasses.
	Quintals.	*Quintals.*
Santiago de Cuba	273,600	30,400
Guantanamo	511,200	56,800
Manzanillo	524,513	42,410

The following statement shows the quantity of molasses shipped to the United States:

	Hogsheads.
From Manzanillo	2,088
On hand	255
Total molasses crop	2,343

The production of rum was about as follows:

	Puncheons.
Santiago de Cuba	1,500
Guantanamo	2,800

OTTO E. REIMER,
Consul.

UNITED STATES CONSULATE,
Santiago de Cuba, August 12, 1891.

TRADE AND COMMERCE OF NATAL.*

REPORT BY CONSULAR AGENT HOLLIS, OF PORT NATAL.

GROWING IMPORTANCE OF NATAL.

At this time, while the various gold fields, new and old, of South Africa are attracting the attention of the financiers and capitalists of the civilized world, it may be well to bring before the favorable notice of the manufacturers, exporters, ship owners and agents of the United States one of the South African ports, which, from its geographical position, is destined to obtain the greater share of the interior South African import trade, and, as the resources of the interior are developed, an extensive export trade also.

To this port comes an ever-increasing volume of manufactured and partially manufactured merchandise, and the United States has a small, though ever-increasing, share of this trade.

It may surprise many—but it is a fact, nevertheless—to learn that during the past year the imports of the colony of Natal exceeded those of Cape Town. In the matter of exports it does not compare as well, Cape Colony having the gold, diamond, and ostrich feather trade in addition to the wool, hides, and other raw material shared between both colonies.

WOOL TRADE WITH THE UNITED STATES.

For instance, take the direct exportations from South African ports to the United States. Many vessels are chartered yearly to load at Cape Town, Port Elizabeth, and East London cargoes of wool, hides, etc., including smaller lots of everlasting flowers, buchu, argol, and gum, thus giving vessels from American ports the advantage of a return cargo.

* The colony of Natal will soon take her place with her sister colony of the Cape under "responsible government," as the Home Government has just practically acceded to the terms of the resolutions lately passed by the legislature of Natal. The rivalry between the two colonies will probably suffer no abridgment by this change.

From this colony (Natal), however, there is no direct exportation. For example, take the wool trade. During the year ended December 31, 1890, over 67,000 bales of wool were shipped from this port, and I can find no record of any of these shipments going direct to the United States, although a considerable quantity may have reached the United States, being purchased by American buyers at the London or continental wool sales.

In the face of the foregoing one naturally inquires why it is that the United States import direct from one state while another in its immediate vicinity, producing the same goods, is left out in the cold. I have asked the same question of a number of wool and produce exporters here, and have also had the same inquiry addressed to me. For my part, I have no suitable answer at present. Some of the exporters, however, state that they have never been approached by American wool-buyers, though they would be only too pleased to make the necessary arrangements to secure a direct trade with the United States in wool, hides, etc.

Others again state that the grade of wool required by the American buyer does not come to this port for shipment. This statement I am not prepared to accept. There are many different grades of wool coming to this port, which may roughly be grouped in three classes, *i. e.*, Natal, Free State, and Transvaal. These wools are very similar to those shipped from Cape ports, though in some respects the former are superior to the latter, containing less sand and dirt.

Others say that the right grade of wool does not come to hand in sufficient quantity to warrant holding a vessel until she gets a full freight. Though this may have been the case in the past, improved facilities for transportation have altered the state of affairs.

The colonial railway system has been pushed northward and westward, tapping the producing districts, and numerous other extensions are contemplated.

The fall wool season is now nearly over, and the spring clip will begin to come down from the interior in October, when freights for vessels of 300 and 400 tons could readily be collected.

The wool-exporters here are willing and ready to give their attention to the advances of any American importers who may wish to extend their trade to Natal.

I am confident that if the importers of grease wools will give this matter their attention they will find it to their advantage to secure a direct trade in this staple. Should any of them desire samples of any of these wools, a number of shippers here are ready and willing to supply them; and should any inquiries be addressed to this office, they will receive my careful attention.

IMPORTS OF NATAL.

During the year ended December 31, 1890, over $21,000,000 worth of goods were entered for duty (this includes the declared value of goods on the free list) at this port. Of these, $16,500,000 worth were entered from

Great Britain. Following in order comes the United States, $1,005,857 worth of goods having been entered from there, distributed among thirty-three vessels of a total tonnage of 14,174. A considerable quantity of goods of American manufacture is shipped from American ports by steamer via England, and the values of these goods are contained in the gross amount of values, as stated above, of imports from the latter country. Next in order comes Australia, from which goods were imported to the value of $737,800. These imports consist principally of wheat and heavy timber. About $500,000 worth (in round numbers) of goods are placed to the credit of Holland, which comes next in order. The balance of the imports are from the British possessions in Asia, various European states, Brazil, and African ports.

Table showing the principal imports and their values in round numbers for the year ended December 31, 1890.

Articles.	Value.	Articles.	Value.
Agricultural implements	$95,000	Hardware	$1,300,000
Ale and beer:		Leather (manufactured)	800,000
In bottles	164,000	Linen	53,000
In wood	194,000	Machinery	1,050,000
Apparel and slops	1,800,000	Oilmen's stores	490,000
Apothecary ware	227,000	Oil	180,000
Bags (empty)	330,000	Preserved provisions and fruit	345,000
Cabinet and upholstery ware	430,000	Harness, etc	330,000
Coffee	500,000	Soap	102,000
Cotton:		Spirits of all sorts	462,000
Manufactured	340,000	Stationery	260,000
Blankets and sheets	111,000	Tea	80,000
Flour, meat, and bran	700,000	Tobacco (manufactured and cigars)	137,000
Glass and glassware	166,000	Turnery, etc	265,000
Grain of all kinds	160,000	Woolen manufactures	640,000
Guns and pistols	34,000	Wine	175,000
Gunpowder	24,000	Government stores and railway material	2,960,000
Haberdashery and millinery	1,680,000	Other articles enumerated in the customs schedule	3,500,000
Hosiery	116,000		
Iron of all sorts	519,000		

A large part of the imports herewith enumerated were goods for the Transvaal, the greater part of that trade passing through this port. The proportion of Transvaal trade passing this way is increasing steadily.

There is a very good demand at present for goods of American manufacture, especially for kerosene. As there are five vessels at present on the water for this port from New York—two of them overdue—stocks will be considerably increased upon their arrival.

The traffic in lumber, building materials, manufactured woodwork, and furniture is quiet at present, but dealers look for a lively market shortly. The dealers in all lines, in fact, look forward to an increased trade during the coming months.

EXPORTS OF NATAL.

During the year ended December 31, 1890, the total value of exports from this port amounted to $6,714,188.38.

The values of the principal articles, in round numbers, were as follows:

Articles.	Value.	Articles.	Value.
Bark	$16,400	Horns	$14,500
Coal	49,000	Skins (calf, sheep, and goat)	64,000
Flour	40,500	Rum	11,200
Maize	5,000	Sugar (unrefined)	87,000
Angora hair	89,000	Raw gold	1,720,000
Hides (ox and cow)	290,000	Wool	3,520,000

During the previous year the value of gold exported amounted to $2,846,576. This difference is accounted for by the greater part of the gold output of the Transvaal being exported from Cape ports.

The exports of sugar during the year 1889 amounted to the sum of $457,401. The decrease in the export for 1890 was caused by failure of the sugar crop, as the season was unusually dry.

With proper care the sugar industry of Natal will eventually assume large proportions.

SHIPPING AT NATAL.

During the year ended December 31, 1890, of 538 vessels entered at this port 356 were steamers, all of which latter were British with the exception of 2 Portuguese. Of the total number of vessels entered, 429 were British, 89 Swedish and Norwegian, 10 German, 6 American, 2 Portuguese, Danish and Dutch 1 each. Of these vessels, 321 arrived from English and Cape ports, 22 from British India, 28 from Australasia, 47 from Sweden, 82 from Portuguese colonies, 33 from the United States, the balance being distributed among South American, European, and Asiatic ports.

During the same year 551 vessels cleared, 327 of which were steamers. Of the total number cleared, 434 were British, 96 Norwegian and Swedish, 10 German, 7 American, 2 Portuguese, 1 Danish, 1 Dutch. Of these vessels, 239 cleared for Cape ports and England, 51 for British possessions in Asia, 30 for Mauritius, 48 for the West Indies, 106 for Portuguese and African colonies, 9 for the United States, 29 for Guam, and the balance scattering.

Of these vessels arriving during the year, 288 came inside the harbor and docked; the remainder discharged and took in cargo by lighters.

No wrecks occurred at this port during 1890, and only 11 vessels have been wrecked here during the last 10 years.

Extensive harbor works are in progress, and before long all vessels arriving will be able to enter the harbor, or, should they stay outside, anchor under the lee of the breakwater.

HARBOR AND DOCKS.

The harbor and docks of Port Natal are second to none in South Africa, save those at Cape Town. The harbor consists of an outer anchorage and an inner basin, the latter a number of miles in extent. The inner basin is connected with the outer anchorage by a channel of from 200 to 300 yards

in width. This channel is protected from the southerly seas by a substantial breakwater starting from a point of land on the south side of the channel and running seaward east-northeast, magnetic, 2,200 feet, and is still being pushed outward at the rate of 60 feet per month, and will be, when finished, the finest breakwater in South Africa, affording a lee to the outer anchorage as well as to the entrance to the channel.

Just under the lee of the end of the breakwater lies the bar which obstructs the entrance to the channel, and on which there is an average depth of 11 feet at low water. Five dredges are continuously at work deepening the harbor and the approaches thereto, and, as the bar gets well under the lee of the breakwater, the harbor authorities are confident of its speedy demolition. On the northern side of the channel a smaller work is being pushed seaward, but keeping well under the lee of the breakwater, with the object of straightening the channel and of directing the ebb tide where its scour will have the most effect upon the bar. Inside the bar the channel has a depth of from 18 to 20 feet at low water, and, although the greater part of the inner bay is dry at low water, the working part of the harbor has an average depth of about 20 feet at low water. Immediately outside of the end of the breakwater the soundings show a depth of 4 fathoms, deepening rapidly to 7 fathoms.

Inside the harbor commodious docks have been constructed provided with steam cranes and other facilities for the rapid handling of cargo. Numerous warehouses have been constructed for the reception and storage of merchandise, and others still are building.

A patent slipway is maintained capable of raising vessels of ordinary size. During the past year 2 steamers, 10 sailing vessels, 14 tugs, 8 dredges, and 3 barges, were raised on this slip and repaired.

An electric light plant has also been installed, thereby facilitating night work.

The vessels having the greatest draft which were brought inside over the bar for each month are as follows:

Month.	Ships.	Draft.	
		Ft.	*In.*
January	Valkyrein	15	11
February	Klyde (steamship)	15	3
March	Ifafa (steamship)	15	3
Do	Hector	15	3
April	Caswell	15	5
May	Ida	16	4
June	Isabel	15	6
July	Lingfield (steamship)	15	3
August	Abiel Abbot	16	8
September	Pusnals	16	7
October	Woye	15	0
November	Eleanor	16	1
December	Alfred Hawley	15	10

All these vessels came in over the bar at high water. The average rise of tide during 1890 was 4 feet 11 inches; the greatest rise, 6 feet 8 inches; the least, 2 feet 9½ inches. During the year the bar was impassable for 15½ days, as against 22 days in 1889.

It will thus be seen that this harbor can safely accommodate any vessels of the usual tonnage chartered for South African ports; and ship owners and agents need have no hesitation in chartering vessels for this port, being assured that they will find here a safe haven and an expeditious discharge of cargo. And if the wool importers of the United States will only take up the question of wool importation as previously suggested, then vessels will be able to secure return cargoes during at least 6 months in the year.

REVISED CUSTOMS TARIFF OF NATAL.

Schedule A.

Ale, beer, and cider	per imperial gallon	$0.18
Bacon, hams, and lard	per pound	.04
Beads	do	.04
Butter, butterine, etc	do	.06
Blankets and sheets (cotton)		15 per cent.
Blankets and rugs (woolen or woolen and cotton)		15 per cent.
Coats and jackets made of blanketing or baize		15 per cent.
Cement (Portland or Roman)	per cask of 400 pounds	.48
Candles	per pound	.02
Cheese	do	.04
Cocoa, confectionery, jellies, bottled, tinned, and dried fruits, preserved and pressed vegetables, pickles, sauces, salted and pressed meats, and potted and tinned fish	per pound or pint	.04
Chicory	per 100 pounds	1.21
Coffee	per pound	.01
Cake and patent fuel	per ton	.73
Guns and gun barrels	per barrel	4.87
Gunpowder	per pound	.12
Jams	do	.04
Matches in boxes or other packages, each box or package containing not more than 100 matches	per gross boxes	.24
Mealies and mealie meal	per cwt	.36
Oils:		
Kerosene and raw or boiled linseed	per imperial gallon	.06
Other, imported in vessels containing not less than half a gallon (chemical, essential, and perfumed oils excepted)	per imperial gallon	.12
Pistols, pistol barrels or sets of barrels	each	1.21
Picks and hoes (Kaffir)	do	.12
Rice	per cwt	.24
Spirits:		
All sorts, not sweetened, not exceeding the strength of proof by Sykes's hydrometer, and so in proportion for any greater strength	per imperial gallon	2.19
Sweetened or perfumed liqueurs and cordials	do	2.19
Sugar:		
Unrefined	per cwt	.85
Refined	per pound	.02
Tea	do	.12

Tobacco:

Unmanufactured	per pound...	.12
Manufactured	do.....	.48
Cigars	do.....	.97

Wines:

Other than sparkling (Pontic and claret)	per imperial gallon...	.97
Sparkling	do.....	1.21
Pontic	do.....	.48
Claret	do.....	.36

Reprints of British copyright works.....20 per cent.

Goods, wares, and merchandise not otherwise charged with duty, not prohibited to be imported, and not exempted from duty by schedule B.....5 per cent.

Schedule B.—Free list.

Animals, living.

Bones and horns of animals.

Books and music, printed; maps and charts.

Brass in bars; copper in pigs, bars, ingots, and sheets, including metal sheathing for ships.

Coin and bullion.

Deals and timber (being the raw material and wholly unmanufactured).

Fresh fruit and vegetables, plants, seeds, bulbs, and specimens illustrative of natural history.

Fencing wire, iron standards, and all materials intended to be used solely for the purpose of wire fencing.

Grain bags.

Guano and other manures.

Gums of all descriptions.

Hides and skins of animals, raw and undressed.

Ice.

India rubber, unmanufactured.

Iron in bars and in sheets (not corrugated).

Iron and steel combined, in plates.

Ivory.

Machinery, or component parts of machinery, to be driven by steam, water, or animal power.

Materials for use in construction of railways and tramways, such materials to mean as follows: Rails, sleepers, fastenings for the same, iron girders, iron bridgework, culvert tops, locomotives, tenders, ballast trucks, freight cars, passenger cars, engine water tanks, turntables, and railway signals.

Nails, yellow metal sheathing.

Ores and minerals, crude and pig iron.

Provisions and stores for the use of the Government.

Paper, for newspaper-printing and book-printing purposes.

Printing types and machinery.

Sheep dip.

Sugar pockets.

Steel, in pigs, ingots, bars, and plates.

Tin, in blocks, ingots and sheets.

Tea lead.

Tobacco, imported overland, being of South African production.

Uniforms for Her Majesty's service, civil and military.

Wines and spirits for the use of the governor and for the use of Her Majesty's military and naval officers serving on full pay

Wire rope.

Wool and wool packs.

On all goods enumerated in schedule B a registration charge is levied, at the option of the collector of customs, of 48 cents per ton weight and 12 cents per package.

All goods, wares, or merchandise bearing marks or labels that infringe upon those of British manufacturers, base or counterfeit coin, indecent publications (books or pictures), are prohibited.

All goods, wares, or merchandise imported in bond and transported in bond through the colony to any of the interior states are subjected to a small transportation tax.

W. STANLEY HOLLIS,
Consular Agent.

UNITED STATES CONSULAR AGENCY,
Port Natal, July 1, 1891.

THE EXPORTERS OF BERLIN.

REPORT BY CONSUL-GENERAL EDWARDS.

I have the honor to transmit herewith a copy of the general report of the Berlin Mercantile and Industrial Association for the year 1889–'90.

A special interest attaches for me to this report, which has just been issued, because it reviews the principal events of the differences between this consulate-general and the Berlin exporters.

By reference to the reply of Baron von Berlepsch, the minister of commerce and trade, to the presiding officers of the Berlin Mercantile and Industrial Association (pages 40–42 of the report) it will be seen that he has met in a manner entirely satisfactory to me, and, I trust, to the satisfaction of the Department, the complaints and criticisms directed by the Berlin exporters against my administration of this consulate-general.

The unjust views and criticisms to which I have been subjected here and in the United States in this connection will, I hope, justify the publication of Minister von Berlepsch's reply to the Berlin exporters.

W. H. EDWARDS,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Berlin, June 3, 1891.

TRANSLATION OF PAGES 6 AND 7 OF THE ANNUAL REPORT OF THE BERLIN MERCANTILE AND INDUSTRIAL UNION.

[Inclosure 1 in Consul-General Edwards's report.]

On October 10, 1889, the local newspapers published the following notice:

"All shippers of wares from the Berlin consular district to the United States of America are informed that I am authorized, by an instruction from the Government in Washington, to refuse to legalize invoices covering goods which have already left the Berlin consular district.

"W. H. EDWARDS,
"*Consul-General.*"

Almost simultaneously with the publication of this notice many complaints were addressed to the presiding officers by local exporters concerning Mr. Edwards's new system in legalization matters. Accordingly it was found necessary to call a meeting for the consideration of this matter.

This public meeting, on October 23, 1889, decided, "The presiding officers are requested to appoint a committee consisting of members of the union and other directly interested local exporters, and, after the appearance of Mr. Edwards's instructions, to address to the minister of commerce a communication giving all well-founded complaints against the practice of the American consulate here and asking for relief." Accordingly the following commission was appointed: Chairman, Hugo Lissauer; members of the committee, Wilhelm Bolle, David & Co., Hermann Friedlander, jr., H. Hasse (in the firm Gebr. Hasse), H. Hecht (in the firm Hecht, Pfeiffer & Co.), Herm. Kadisch & Co., Sal. Kaufmann (in the firm Kaufmann & Strauss, in New York), Ad. Ostberg (in the firm Ostberg & Loeser), Julius Rente; directors, Al. Riese, Herm. Rothenstein (in the firm Koch, Sons & Co.), R. Schurich (in the firm Carl Pflugbiel & Co.), and Emil Selberg (in the firm Selberg & Schlüter).

TRANSLATION OF PAGES 40–42 OF THE ANNUAL REPORT OF THE BERLIN MERCANTILE AND INDUSTRIAL UNION.

[Inclosure 2 in Consul-General Edwards's report.]

J. No. 2,646.] BERLIN, *February 25, 1890.*

BARON VON BERLEPSCH,

Minister of Commerce.

YOUR EXCELLENCY: We have the honor most respectfully to lay before you the following matter:

In November last the undersigned, president of the Berlin Mercantile and Industrial Union, in consequence of his appeal addressed to the assistant secretary of state, Count von Berchem, had an interview with Ministerial Director Reichardt, in which he presented the complaint of Berlin exporters in regard to the demands made by the consul-general of the United States of America here in connection with the legalization of invoices. In this conversation Ministerial Director Reichardt stated that beyond doubt the consul-general was only doing what he was empowered to do by American laws and instructions, and that therefore it would be difficult to obtain redress. Soon afterward the consul-general sent to Berlin exporters the information contained in inclosure 1, in which he stated the rules applying to his legalization of invoices; yet in the same he fixed as rules exactly the points which gave rise to complaint. Especially do points 3, 4, and 5 give cause for real anxiety.

After having had a conference with the consul-general, Mr. Edwards, we addressed to him our written complaint under date of November 23, 1890, and received from him, under date of November 29, 1890, a reply in which he refused to grant our request in regard to the withdrawal of his requirements. He also informed us, under date of January 25, 1891, that the State Department in Washington had given renewed advices to make no changes in his former course.

Points 3 and 4 of the consular instructions are especially adapted to ruin the export trade of dealers and commission houses, and we take the liberty of making the following remarks on the subject:

Point 3.—Legalization shall be given only for wares manufactured or purchased in the consular district. Thus will it be made impossible for the dealer (agent) to carry an assortment of the manufactures of the different cities of Germany or to sell from sample from factories outside of Berlin, although the delivering capacity of an export dealer depends upon his having the most varied assortment possible.

Point 4.—Point 4 requires with the delivery of the invoice of sale a copy of the original invoice of the manufacturer, and consequently the disclosure of the name of the actual manu-

facturer of the wares and of his original price. Hereby the business secrets of the dealer are surrendered to the consulate-general, and the officers of the same are placed in position, by making copies and notes, to collect for American importers most valuable information. This is so much the more dangerous, as it is well known that American officials occupy a position to their Government entirely different from those of other lands, because their appointment and dismissal depends upon political circumstances. Hence the collection of business notes which may be of subsequent value to such persons is really naturally to be expected. As the consul-general can in no case do without clerks, even with the best intentions on the part of the former, his wishes may be crossed by the latter.

We have not failed to take into account the statement of the foreign office in regard to the legal foundation of the consul-general's requirements and have taken steps to learn if the consular regulations are enforced in like manner in the mercantile cities of other countries. In this case, of course, nothing could be done against these foreign requirements. The result of our inquiries, however, shows that the regulations complained of by us are partially not enforced in other European countries, and hence it appears that an injury to German interests is especially intended. We hand you herewith, most respectfully, inclosures 2 to 10.

Inclosure 2.—The exporters Hirsch & Stern, of Birmingham, inform us that the consul-general there has, in their long experience, only once availed himself of his right to demand samples and original invoices.

Inclosures 3 and 4.—The exporters R. D. Warburg & Co., in London, inform us that the consul-general there has never demanded original bills or information in regard to the origin of wares.

Inclosure 5.—The exporters Königsberger & Rudenberg, in Zurich, report that their own invoice suffices for legalization.

Inclosure 6.—The export firm M. Türkheimer, in Milan, says that there nothing except the regular export invoice is demanded.

Inclosure 7.—The exporters Ed. Kanitz & Co., in Vienna, inform us that up to the present the regulations enforced in Berlin have not been put into operation by the American consul-general in Vienna.

Inclosure 8.—The export firm R. D. Warburg & Co., in Paris, states that the consul there demands original invoices, but that complaint will be made by Paris exporters.

Inclosure 9.—The export firm Geo. Borgfeldt & Co., in Bodenbach, reports that the original invoices of manufactures are not demanded by the American consulate.

This information shows that the requirements made on the Berlin export trade are not enforced in England, Austria, Italy, and Switzerland, and that accordingly an unjust distinction is being made against Germans in their competition in the world's market.

We have no doubt that your excellency will be unwilling to tolerate this injury of the interests of Berlin trade, which, if the present state of affairs continues, will in a short time cause the ruin of our dealers' export trade, and we most respectfully request your excellency to cause suitable representations to be made to the North American Government in order that further unjust treatment of the German export trade may cease.

We have, etc.,

HUGO LISSAUER,
B. W. VOGTS. SCHLICKE,
Presiding Officers of the Berlin Mercantile and Industrial Union.

C. 1529.] MINISTRY FOR COMMERCE AND TRADE,
Berlin, April 8, 1890.

To the Presiding Officers of the Berlin Mercantile and Industrial Union:

In reply to your communication of February 25, 1890, in regard to the requirements in connection with the legalization of customs invoices of the consul-general of the United States of America here, W. H. Edwards, I inform you, with the approval of the minister of foreign

affairs, that, after repeated examination, a contradiction between the provisions of law and the requirements of the consul-general has not been found to exist. In this connection I refer to the collection of "Regulations prescribed for the use of the consular service of the United States" (Washington, 1888), paragraphs 637–681, and especially to paragraphs 641, 643, and 647. In a former diplomatic intercession the highest competent officials, the State Department in Washington, decided that similar complaints raised against Consul-General Edwards were not well founded, and that the course taken by its official was in conformity with existing regulations. Again, in November last, it was added that Mr. Edwards was not independent in his decisions, but was solely guided by the instructions of the Secretary of the Treasury. In the matter of complaint Mr. Edwards had done nothing more than put into force, as it was his duty to do, regulations which had been allowed to fall into partial disuse.

Hence the proof material advanced by you in support of your complaint, that consuls of the United States in other places do not enforce the requirements of their instructions so strictly as Mr. Edwards, is of no importance.

Any appeal on the subject would, in the opinion of the minister of foreign affairs, even if the facts advanced could be proved, only, in all probability, cause the American Government to forbid a mild application of instructions by the officials mentioned.

Under these circumstances, I can not further prosecute this matter.

The documents accompanying your communication are herewith returned.

BARON VON BELEPSCH,
Minister for Commerce and Trade.

RAILROAD EXTENSION IN NICARAGUA.

REPORT BY CONSUL NEWELL, OF MANAGUA.

Since the completion of the Government railroad of Nicaragua in the year 1887, there had been little activity in railway matters until a short time ago, when English capitalists became interested in the concession granted to the Nicaragua and Atlantic Railroad Company. This road is now in course of construction from San Ubaldo, on the eastern side of Lake Nicaragua, nearly directly opposite to Granada, to Rama, a point about 60 miles distant from the Atlantic coast.

The general line of the survey will be from San Ubaldo north-northwest to El Portillo de los Negritos, thence east-northeast to the Loma Pablo Gomez. Through Pica Tierra it passes half a mile to the south of Acoyapa, thence bears southeast to San Vicente, east-southeast to Rio Cacao, and northeast to La Manga. There the first or nonmountainous portion may be said to end, the remainder being very different in character and probable difficulty. This part is 42 miles in length and as nearly straight in direction as the topography of the country would admit. The ground throughout presents no serious difficulties for a railway, but the cutting will be chiefly through volcanic and other hard rocks.

The chain of the Nicaraguan Andes dividing the lake basin from the Rama River, lies between the head waters of the Oyale, passing La Manga, and the Rama River. Here is the most difficult and broken portion of the line. The Portillo del Cascal, where the line crosses the divide, is probably the lowest and most favorable for the purpose, as the ground height of the summit is 713 feet above the Atlantic.

The line from La Manga outwards bears nearly due north to the Loma del Falcon; thence north-northeast, with Arranca Barba on the left and Timboral on the right, to the Portillo del Cascal; thence east-northeast to the Arenal and nearly due east to Coral; thence northeast into the valley of the Chilmate and Rama, down which it passes to the left of the River Rama, over a fairly level country, till it meets the network of hills called El Diablo and Las Pavas, round which the difficulties encountered are considerable. Thence the line bears east-northeast to the confluence of the rivers Rama and Siquia, the Atlantic terminus of the railway. The second portion of the route, 60½ miles in length, will be very heavy, owing to the excessively broken character of the country traversed. The total length of the line is therefore 102½ miles, of which five-sixths are fairly easy and one-sixth difficult. The line crosses the important rivers San Agostin, Acoyapa, Ajocuapa, de Aguas, Cacao, Oyale, Chilmate, and Serrano, the two latter being tributaries of the Rama, none, however, exceeding 60 yards in width.

The line surveyed is certainly as good as could be selected through said country for gradients, curves, and cost. It is the intention to complete the road within 3 years and at an estimated cost of between $3,000,000 and $4,000,000. The gauge of the road will be 3 feet 6 inches, being the same as that of the National line.

In connection with the road the company will erect a telegraph line and lay a cable. The cable is to be laid between Rama and Jamaica, touching at Corn Island; the length will be 400 miles. This cable line will give to the Central American republics, with their telegraph system, an European connection on the Atlantic side.

This company also intends deepening the bar at the mouth of the Bluefields River, so that vessels of large draft will be enabled to come up the river as far as Rama, the Atlantic terminus of the line. The company will erect light-houses and buoy the approaches to the river.

The Bluefields River is certainly a splendid stream, and I may say, without the least exaggeration, that it surpasses anything in Central America. For a distance of about 65 miles, from Bluefields to the Boca de Rama, large steamers drawing from 12 to 14 feet, running to Galveston, New Orleans, New York, Philadelphia, and Boston, come up the Rama River without the least difficulty. The banks of the stream on both sides for 35 to 40 miles are lined with plantations and their respective dwellings. The view along the river is positively imposing.

The present town of Rama is on the left bank of the Bluefields River, facing the point formed by the Rama and Siquia rivers. Another town on the point formed by the Rama and Siquia and facing Rama proper is more thickly settled and is called Boca de Rama, or Rama Vieja, with a better class of buildings. The wealthier merchants reside and have their business on this side, which will no doubt be the official residence of the governor. This latter town is the Atlantic terminus of the railway.

The Nicaragua and Atlantic Railroad will bring under cultivation many miles of river-bank lands above the Boca de Rama, and also lands on the higher ridges, fit for the cultivation of the best class of tropical fruits.

It is well known that bananas grown on high ground are finer fruit, being harder, and stand the voyage better on account of this latter quality. The land on the higher ridges already mentioned is suited for the cultivation of oranges, limes, and lemons. Here are also found lands which produce two crops of sugar a year, and as a higher altitude is attained vanilla is found growing wild; also fiber plants, notably the pita, in the greatest abundance, and near at hand plenty of water in running streams to beneficiate this excellent fiber.

The forests on the banks of the Chilmate River, along this road, produce excellent mahogany and cedar, which brings the highest price of the many importations of this class of woods that reach our American markets. This wood is used by the Pullman Car Company in the construction of their cars.

At the present time a fruit steamer arrives at Bluefields every second day. The railway company intends to make arrangements so that freight between Liverpool and Bluefields will not be longer on the voyage than 13 days.

I have been minute in the description of the route of this railway for the reason that beyond doubt it will be the most important in Central America. This line is but the beginning of a vast system of railways which this company contemplates building in Nicaragua, and which will be of inestimable benefit to this Republic—a system that will tend to revolutionize the commerce of Central America.

When the road is extended to Granada, which will be done in the near future, Nicaragua becomes possessed of a transcontinental line, for here the Nicaragua and Atlantic Railway joins hands with the National line, which has its western terminus at Corinto, on the Pacific Ocean.

The Nicaragua and Atlantic Railway taps some of the richest lands in this Republic. Along its route are found magnificent forests of India-rubber trees and many kinds of valuable woods that are used in construction or for dyeing purposes. In the Rama valley is the banana-producing district of Nicaragua, and this railroad will be the means of shipment to the Atlantic coast of this tropical fruit. It is also adjacent to the rich mining district of Chontales, whose mines are now in active working, and which have contributed in no small way to augment the resources of this Republic.

A railroad is now being built from San Jorge, on the western shore of Lake Nicaragua, to Rivas, which is in the interior about 3 miles. This road will be, for the present, more of a tramway than a railway, as the motive power will be horses; but, as facilities will be provided for the shipment of freight, and as it is the intention of the incorporators to extend the line to Granada and gradually develop it into a railroad strictly, I feel that it has a place in this article. San Jorge is the shipping point for a large population, and Rivas is the metropolis of the department, and, as the country is growing rapidly both in population and trade, the old means of transportation, ox carts, has been found to be inadequate and slow.

The Canal de Nicaragua Company is now constructing a line from San Juan del Norte, on the Atlantic coast, to Ochoa, a point on the San Juan River, a distance of 32½ miles. Of this line about 7 miles are now in operation. This road, however, I believe is not to be permanent, but simply a means to be used in the construction of the canal. At Ochoa, the terminus of the road, the canal company will put in an immense dam, so as to raise the San Juan River from 50 to 60 feet above its bed, and the railroad will facilitate the shipment of material for this work.

This line will also be used by the company to transport the passengers who are traveling between Granada and San Juan del Norte until the canal is ready for the passage of ships through this water way.

The canal company is also constructing a railroad from Brito, on the Pacific coast, to the Rio Lajas, a distance of 16½ miles. This road, like the one from San Juan del Norte to Ochoa, is more for the purpose of facilitating the construction of the canal than as a permanent means of transportation. Outside of the surveys and clearing of the minor part of the proposed road, very little of consequence has been done upon this line.

The Government of Nicaragua has in contemplation a railroad from Momotombo, on the northwestern side of Lake Managua, to Sebaco, in the department of Matagalpa. The length of the proposed road is 120 miles.

Very little, so far, has been done in the way of building this line; in fact, I believe that, outside of making the studies in order to ascertain the feasibilities of the intended line, nothing has been done. I am informed by a prominent official that the work has been retarded on account of the failure of Congress to make an appropriation necessary to carry on the work.

This proposed road will tap a section that is destined in a near day to be the coffee-producing district of Nicaragua. There are a large number of foreigners already in this department, many of them Americans, and each year sees the number largely augmented.

Besides the roads in construction, there are a number projected, as follows: From Chinandega to El Viejo, a distance of 4 miles; from San Juan del Sur to San Jorge, the extent of the line being 22 miles.

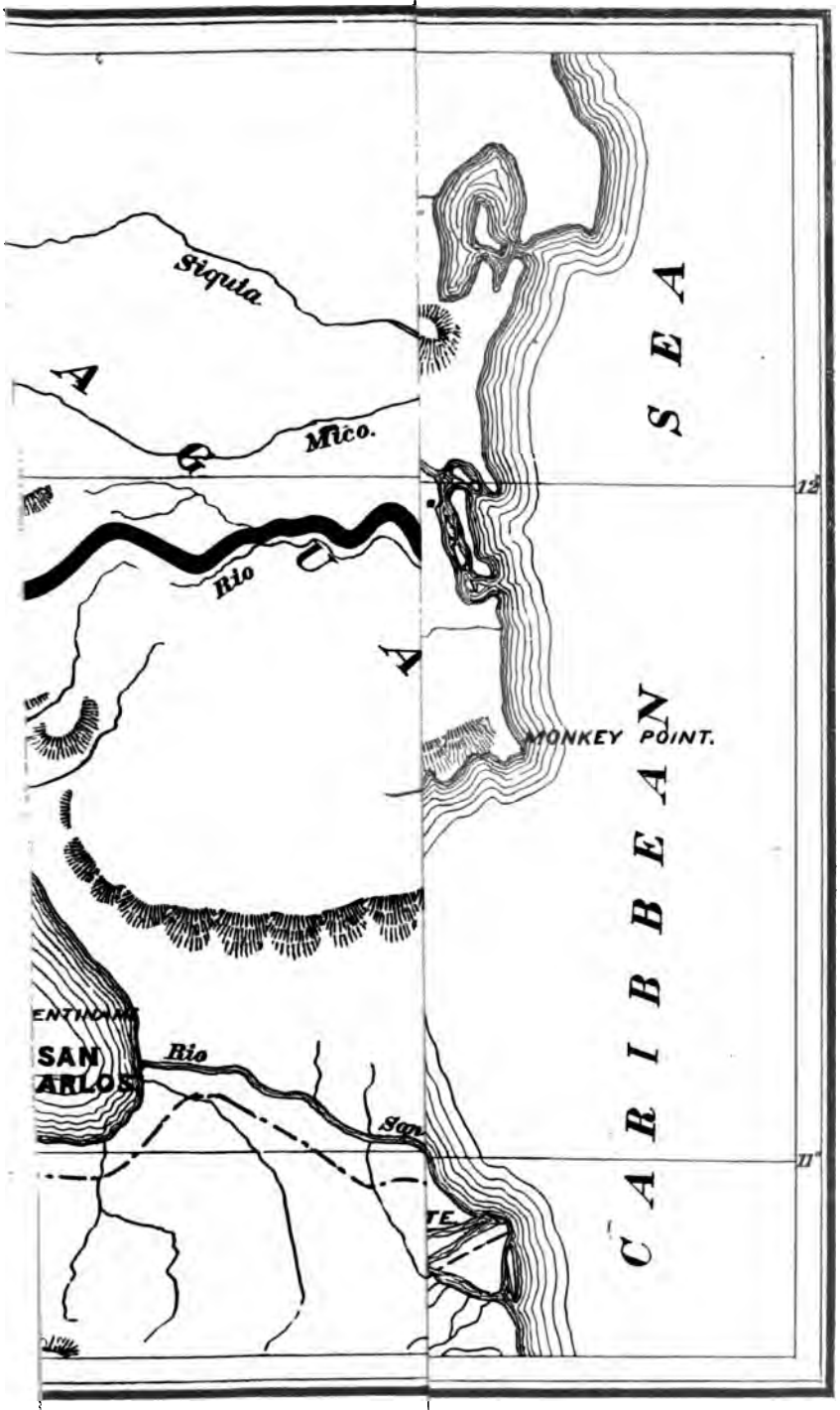
San Juan del Sur is the second port of importance on the Pacific coast in Nicaragua, while San Jorge is a shipping point on the western side of Lake Nicaragua. This contemplated road will run through a section of country that is being fast settled up and greatly needs advanced means of transportation.

A road is also being projected from Masaya to Jinotepe, a distance of 20 miles.

The accompanying map shows the railroads now in existence in Nicaragua, and also those in course of construction.

WILLIAM NEWELL,
Consul.

UNITED STATES CONSULATE,
Managua, May 16, 1891.



RSE OF CONSTRUCTION.

TRADE OPPORTUNITIES OF SIERRA LEONE.

REPORT BY CONSUL BOWSER.

From time to time this consulate is in receipt of letters and personal interrogatories asking why business firms in the United States do not increase their trade here and open up a line of quick transportation direct. This country affords articles of commerce that the United States are in daily need of. The African coffee can not be surpassed in quality of flavor or size of berry, but there is no kind of machinery or convenience of any kind to prepare it for market.

Sugar cane grows here as well as in any other tropical climate, and cotton grows as well as in the Carolinas, of the same kind and texture; but apparently every energy here is bent on trade and traffic. The soil and its products are neglected at this port, but the mercantile business is on the increase, as shown by the monthly abstracts here. There is only one American firm doing business, Yates & Porterfield, that has a house here. There are English, French, and Italian houses here importing American goods from New York and Boston and sending the produce via English steamers to Liverpool, there to be transshipped to the United States. This port is the great outlet to a large scope of territory, and steamers call here to coal, Sierra Leone being the midway station to the south coast.

A line of monthly steamers here from New York or Boston would be a valuable investment. They might not get full return cargoes at first, but would soon have a paying business. Ginger, hides, benne seed, gum, and rubber are the principal exports now, but opportunities to ship would create other commodities for sale.

There is no machinery in the colony and nothing done here with machinery, except the sewing machine. This colony is 103 years old and contains upwards of 50,000 people, with not a sawmill or any other kind of mill to do any kind of woodwork, although building material is plenty—stone and wood. As to brick, if anybody would make them and put them in the sun, they would "burn themselves" if let alone. The stone here is of volcanic origin and is soft when first uncovered, but hardens by exposure to the air. When first dug up you can cut it into any shape for building. It is of a beautiful yellow color and very light.

It seems almost impossible that this colony should exist so long with so few conveniences that belong to civilized people. The Yankee push and inventions and machinery are the needs of this country if it ever wants to come to the front.

BOLDING BOWSER,
Consul.

UNITED STATES CONSULATE,
Sierra Leone, June 30, 1891.

THE MANUFACTURE OF COBALT.

REPORT OF CONSUL WILLIAMS, OF ROUEN.

The large and important chemical works of the Maletras Company, at Rouen, finding that the manufacture of soda and its products had ceased to be profitable, determined to seek some better use for the large portion of their factory which had been used for this purpose. In searching for a substitute which would employ the workmen, utilize the machinery and buildings, and employ the capital and afford profit, the direction naturally sought for some production for which France relied upon other countries for its supply. They found that cobalt was almost a monopoly confined to four or five English and German houses, although the mineral is almost entirely brought from New Caledonia, which is a French colony.

Cobalt furnishes that beautiful blue not affected by the atmosphere or heat which is so extensively used in the manufacture of earthenware, indispensable to the painting of porcelain and artificial flowers, valuable for bank bills, etc. Many other colors are derivable from it, green and yellow notably, to say nothing of the uses for the metal cobalt, which is in its infant state.

The cobalt for trial was bought in the London market and experimented upon in the well-equipped laboratories of their works. The results were conclusive. No doubt existed that this new departure was perfectly practicable. The only difficulty was to obtain the raw material.

A distinguished English engineer informed me to-day that, although unable to give the precise date or locality, he was certain of the fact that an Englishman, attracted by the blue tint of the stone with which the road was repaired in the neighborhood of the Lakes of Killarney, in Ireland, tested and found that it was cobalt; and, examining the source of supply, purchased a quantity of the land in the vicinity from which it had been taken. He succeeded in enriching himself from the product of cobalt of this land. This led to searches undertaken by others alongside of his mines, which resulted in flooding with the waters of the lakes their own mines and that of their rival, thus ruining both. Since that period I can find no trace of any successful revival of cobalt-mining in that region.

The mineral cobalt abounds in New Caledonia and is inexhaustible and coextensive with the island.

The working of the mines of the mineral is easy, as it is often found on the surface, and when it is below the trench does not exceed 20 feet in depth. The cost is very little, and it requires to be, for the mineral contains only about 2 per cent. of cobalt.

The mineral thus obtained is sent directly to the London market, on account of the facilities of transportation afforded by English vessels. These ships, carrying wool from Australia, find it very convenient and profitable to take in for ballast the mineral cobalt, which enables them to carry more

wool, as the fibers of the wool are liable to be broken under pressure similar to that exerted upon cotton. The freight of the mineral to London is about 15 to 18 francs per ton.

The London market has thus become the only center of supply. In purchasing this article at London the tax imposed of 36 francs on entry into France upon articles from countries outside of Europe brought to European depots prevented competition in their home markets with their English and German rivals. The only remedy was to temporarily admit the mineral upon the express stipulation that the product should be all sold out of France, and thus avoid the payment of duties.

This deprivation of the entire French market interfered with the plans of the company. They undertook to import directly by a maritime transportation company richly subsidized by the Government connecting France with Nouméa. This company offered to carry the freight at first at 28 francs per ton. This was an advance of 10 francs upon the London freight; but, having no competition, soon raised their rates to 31 francs, and then to 51 francs, which was prohibitory. In the meantime the Maletras works sent a most competent and experienced metallurgist to New Caledonia. During a residence of 18 months he made a thorough examination, and on his return reported a new process for treating the minerals of cobalt. Soon after he came back, about 3 years since, the company installed in the part of their establishment formerly devoted to the manufacture of soda the apparatus for treating the minerals of cobalt.

NEW PROCESS FOR EXTRACTING COBALT AND NICKEL.

This process is described in the late number of the Engineering Journal by Mr. Louis Palatin, for a long time acting as mining engineer in New Caledonia, where he presided over the general council.

The ores treated come from New Caledonia, known to miners from its mines of nickel; but it is not so generally known that cobalt mines are also actively worked there and the minerals sent to Europe for treatment. The veins of cobalt are irregular impregnations of absolite disseminated through large masses of clay tinted with iron.

This absolite is found in several states. It is easily cut with a knife, and the section is of a characteristic blue-black luster. It is mixed generally with silex, oxide of iron, and clay. Although the mineral varies in the different mines, the following analysis gives a tolerably correct idea of its composition:

Components.	Per cent.	Components.	Per cent.
Peroxide of manganese	18	Lime	1
Protoxide of cobalt	3	Magnesia	1
Protoxide of nickel	1.25	Lost by drying (water and oxygen in excess)	32.75
Silex	8		
Peroxide of iron	30	Total	100
Aluminum	5		

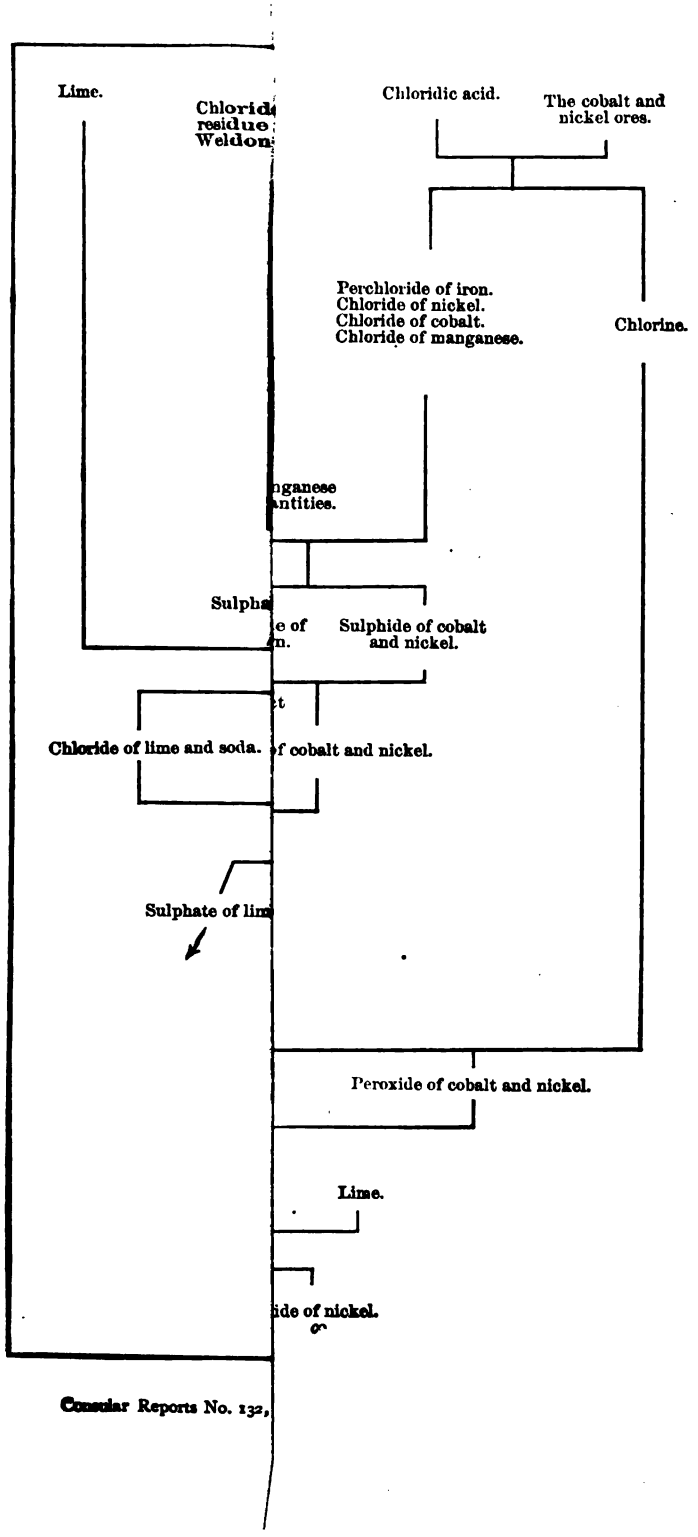
The cobalt and nickel are always found in the state of protoxide and the manganese in different states of oxidation. The amount of aluminum, manganese, and silex varies; but it appears that the relative proportion of cobalt and nickel is constant.

For many years—over 10—the economical extraction of cobalt and nickel has been the subject of many experiments—melting the mineral in different-shaped furnaces, treating the resulting mass by the wet and dry processes—which have given but mediocre results and none have succeeded in simplicity or efficiency; and this led the director of the Maletras works to take the subject up, and with the assistance of his mining engineer a very successful and interesting solution has been found. Although appearing a little complicated, it is not really so, and is carried out on quite a large scale here, and that without any costly reagents and with few operations. The whole of the cobalt and nickel is practically extracted.

The accompanying diagram clearly shows the different operations and their results.

The following is a description of the method:

The mineral is easily crushed, and in a state of powder is thrown into large vats filled with a solution of the sulphate of protoxide of iron and thoroughly mixed up by a jet of steam. The manganese, the cobalt, and the nickel are taken up by the liquid in the form of sulphates. The iron that is in the mineral, as well as that in the solution, is precipitated in the form of peroxide and partly sulphate, with the aluminum and silex. After some hours, adding a sufficient quantity of the mineral, a test by permanganate of potassa will show if the liquid has had all the iron precipitated. From this results (1) a liquid containing in dissolution the manganese, cobalt, and nickel; (2) a residue containing the iron and aluminum. The liquid is drawn off; and the residue is passed through the felter press and roasted (calcined) and used as colcothar, a by-product. The sulphate protoxide of iron used in this operation is made in the establishment by attacking scrap iron by one of the residues in sulphuric acid known as bisulphate of soda. This bisulphate of soda contains free sulphuric acid and forms, with the scrap iron, sulphate protoxide of iron and also sulphate of soda, used subsequently. The sulphate of soda is separated by crystallization. The liquid containing the manganese, cobalt, and nickel is run into stone basins, to which is added the sulphate of soda, which precipitates the whole of the cobalt and nickel, but leaves the greater part of the manganese in solution. The precipitate containing the cobalt and nickel and a small quantity of manganese is washed and passed through the felter press and then treated with a perchloride of iron (produced in one of the succeeding operations), which dissolves the manganese, and so this second operation gives (1) a black precipitate of comparatively pure sulphides of cobalt and nickel, (2) a liquid containing sulphate of manganese. The precipitate is now treated to separate the two metals. To the liquid is added chloride of lime, obtained in one of the subsequent operations, and the manganese precipitated by the lime becomes a by-product used in the Weedon process.


Lime.
Chloridic acid.
The cobalt and nickel ores.
Perchloride of iron.
Chloride of nickel.
Chloride of cobalt.
Chloride of manganese.
Chlorine.
Sulphide of cobalt and nickel.
Chloride of lime and soda.
Peroxide of cobalt and nickel.
Lime.

The sulphide of soda is produced in a corner of the establishment by boiling in a closed vessel one of the by-products of their establishment—soda-ash from their carbonate of soda furnaces—and the sulphate of soda residue from making the sulphate protoxide of iron already described.

The third operation consists of drying the sulphides of cobalt and nickel and then carefully roasting them in a reverberatory furnace, when, if carefully done, the sulphides become soluble sulphates of the two metals.

The fourth operation is the most difficult and remarkable one. The soluble sulphates are now washed with boiling water. The solution is treated with the chloride of lime (in preference to the chloride of soda), of this liquid (*a*) containing chloride of cobalt and nickel a certain quantity is taken, and the cobalt and nickel are precipitated by lime. This precipitate of oxide of nickel and cobalt is washed to remove any chloride of lime that might rest, and is placed in a suitable vessel and a sufficient quantity of water added, and is submitted to a current of chlorine gas and air under pressure to produce a thorough mixing. The result is that the metals, from simple oxides, change into peroxides of cobalt and nickel. To these peroxides is added a new portion (*b*) of the liquid *a* and the two mixed up thoroughly by a jet of steam, and a curious change takes place. The peroxide of nickel, changing into protoxide, enters into dissolution and is displaced continuously by an equivalent proportion of cobalt from the first solution. The liquid then contains chloride of nickel, the cobalt being precipitated as peroxide of cobalt. The second portion (*b*) is calculated so as not to displace the totality of the nickel. This liquid is now run off and a fresh quantity of *a* added, and so on until one finds by testing that the precipitate contains nothing but peroxide of cobalt pure, when the operation is finished. The solutions containing nickel are treated with lime, and the nickel is precipitated as oxide of nickel, and the lime is chloride. The products of the operation are (1) protoxide of nickel, (2) peroxide of cobalt, (3) chloride of lime. The chloride of lime is required in one of the preceding operations. The oxides of nickel and cobalt are passed into the felter press, dried, and calcined.

In one of the operations a current of chlorine gas is used. It is produced by attacking the cobalt ores by chloridic acid, which, as well as producing the gas, furnishes a solution of perchloride of iron, manganese, cobalt, and nickel, which is used in one of the foregoing operations.

In this process there are two of the operations which are claimed as original, the first operation using liquid sulphate protoxide of iron and the latter separation of the nickel and cobalt.

They treat at present about 150 tons of ores per month, containing 3 per cent. of cobalt and 1¼ per cent. of nickel, and, as cobalt is worth about $2.20 per pound and nickel 50 cents, the value produced is important.

The total production of cobalt in the world is about 200 tons, equal to about $1,500,000.

The company expects shortly to still simplify its system by melting the mineral at the mines, and so concentrating the minerals, with a saving in

transport; and the minerals so treated will commence at the third operation of the description given. An experimental furnace erected here fully justifies their expectations.

The process is carried out in an old establishment, where the space had to be taken as found; but the firm have published the accompanying plan as what they would recommend where the ground would permit such an arrangement.

I can see no reason why we should not buy and transport directly, and without the assistance of any intermediaries, cobalt from New Caledonia and wool from Australia for treatment in the United States. This would not interfere with the farmers' protection on wool, for many a year will elapse before the American manufacturer finds a substitute at home for Australian wool, which he is now obliged to buy in the London market.

If our Government wishes to subsidize vessels on any routes, none could afford more benefits than the one above referred to. In the meanwhile it would be strange if cobalt was not found in some part of our vast territory.

CHAS. P. WILLIAMS,
Consul.

UNITED STATES CONSULATE,
Rouen, May 18, 1891.

FOOD IMPORTS INTO GERMANY.

REPORT BY CONSUL-GENERAL EDWARDS, OF BERLIN.

From the April volume of statistics of the German Empire the following figures are taken:

Table showing imports of certain articles of food.

Articles.	First 4 months of 1891.	First 4 months of 1890.
	Kilogrammes.	*Kilogrammes.*
Wheat	154,842,100	205,609,800
Rye	166,530,100	264,670,700
Oats	24,312,300	62,301,100
Buckwheat	10,028,900	6,068,500
Legumes	30,057,700	23,655,300
Barley	215,901,900	244,049,900
Maize and dari	103,816,600	175,896,000
Malt	20,591,700	25,032,700
Potatoes	30,632,300	11,142,200
Fruit, fresh	3,387,800	2,560,600
Flour	4,088,300	3,835,000
Manufactures of flour, bakers' wares for inhabitants of frontier districts	5,110,000	4,584,200
Rice	30,321,900	30,225,100
Flesh of cattle	6,142,800	10,186,600
	Number.	*Number.*
Cows	40,840	34,952
Steers	2,970	1,903
Oxen	15,115	5,432
Young cattle under 2½ years of age	22,219	15,558
Calves less than 6 weeks old	7,369	7,428
Hogs	254,320	131,899

This comparison shows that during the first 4 months of 1891 there were imported into Germany 50,767,700 kilogrammes of wheat, 98,140,600 kilogrammes of rye, 37,988,800 kilogrammes of oats, 28,148,000 kilogrammes of barley, 72,079,400 kilogrammes of maize, 4,441,000 kilogrammes of malt, and 4,043,800 kilogrammes of meat, less than in the corresponding period of 1890. On the other hand, there was an increased importation of 3,960,400 kilogrammes of buckwheat, 6,402,400 kilogrammes of legumes, 19,490,100 kilogrammes of potatoes, 827,200 kilogrammes of fresh fruit, 253,300 kilogrammes of flour, 525,800 kilogrammes of manufactures of flour, 96,800 kilogrammes of rice, 5,888 cows, 1,067 steers, 9,683 oxen, 6,661 young cattle, and 122,421 hogs.

During the same periods there were exported from Germany:

Articles.		1891.	1890.
Potatoes	kilogrammes	47,128,400	23,451,700
Fresh meat	do	4,449,600	8,416,700
Flour	do	37,303,800	28,577,100
Sheep	number	102,152	221,113

W. H. EDWARDS,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Berlin, June 1, 1891.

PATENT LAWS OF AUSTRIA-HUNGARY.

REPORT BY CONSUL HAWES, OF REICHENBERG.

INTRODUCTORY.

There are two reasons why I consider a report on this subject of importance: First, to inform American inventors how to procure a patent in Austria, what it costs, and the amount of protection such a document confers; second, to inform the same inventors that, even if their invention has been imitated and patented in Austria by natives, they can protect themselves by procuring a patent and having the former one declared null and void, at the same time recovering damages.

Imitations of American patents are seen on every side. A cheap imitation of the Smith & Wesson revolver is produced, even to the monogram of the firm.

In order to furnish information of value, however, it was necessary to consult a lawyer, and the following has the authority of Dr. Ritter von Rilke, a distinguished lawyer of Prague, who has before kindly aided me in the study of legal subjects for the Department.

GENERAL CONDITIONS.

The most important principles concerning the acquisition and enjoyment of a patent ("Privilegium" is the word more often used in Austrian law), as well as relating to their validity and extent and contests growing therefrom, are contained in the patent law of August 15, 1852, No. 184 of the imperial law publications.

Further appears of importance the regulations of the ministry of commerce, which are published from time to time in the official publications of that office. The more important of these decisions have recently begun to appear in certain legal journals.

A patent can be granted for every new industrial discovery, invention, or improvement which is (1) a new manufacture, (2) a new means of manufacture, (3) a new method of manufacture.

The meaning of the words discovery, invention, and improvement is defined in law and practice as follows:

Discovery (*die Entdeckung*) depends upon the finding of a process formerly known but forgotten, or a process entirely unknown in this country. This liberal definition of discovery perhaps explains how German Europe claims the discovery of the telephone, the telegraph, and pretty nearly everything else in use in the world.

Invention (*die Erfindung*) means the production of a new object by new or known means, or the production of a known object by other means than those used before.

Improvement or modification (*Verbesserung oder Veränderung*) is defined as any preparation of a patented object itself, or its method of use, whereby greater success is reached in the process of manufacture or in its production.

Inasmuch as the same conditions apply to discovery, invention, and improvement, the word "invention" will be hereafter used.

An absolutely necessary condition in obtaining a patent is novelty. An invention is new in the meaning of the law when, at the time of the application for the patent, it is not in use in the country and has not been made known through publication.

Should an invention from a foreign country be brought into Austria-Hungary, it can only be patented after a patent has been granted in that foreign country, which also must not have expired. In such a case a patent will only be granted to the foreign patentee or his legal representative or successor.

No patent will be granted for the preparation of foodstuffs, drinks, or medicines, or for inventions opposed to the public good.

APPLYING FOR PATENTS.

The application should be made to the political district authorities or to the political authorities of the land (*Statthalterei*).

In each case the authorities are only a means of transmission, inasmuch as they can only decide upon certain matters of form, and the case will be

decided upon its merits by the ministry of commerce. A direct application to the ministry is, however, inadmissible. It may be remarked, however, that the applicant may present his petition in either one or the other halves of the Monarchy (Austria or Hungary), and the ministry there then enters into communication with the ministry of the other half, and a patent may be issued for the whole Monarchy in the shape of two separate documents bearing the same date.

The form of application must contain the name, occupation, and residence of the applicant. In case the applicant resides abroad, he must have a resident attorney, whose name must be mentioned. A description of the invention in substance should then follow. The time for which protection is asked should also be stated. The limit is 15 years, except with the special consent of the Emperor. It should be stated whether it is desired that the patent should remain a secret.

Accompanying the patent should be: (1) The application fee; (2) the power of attorney referred to when required; (3) in case the patent comes from abroad, a certified copy of the foreign patent; (4) exact specifications in duplicate, closed and sealed.

These specifications are a very important formal necessity. They must be signed by the applicant or his attorney, prepared in German or the language of the country where the application is presented to the authorities; must contain an exact description of the patent and be accompanied by drawings, samples, or models without reserve, so that after the expiration of the patent any skilled person possessed of them could utilize them.

As already mentioned, the political authorities have only to decide concerning certain formalities, and they are not authorized to open the sealed description. This can only be done by the ministry.

On account of the formalities and difficulties attending the required application, it is recommended that Americans desiring a patent should place the matter in the hands of a duly chartered patent bureau or agency, which can be found in every large city, and which is qualified to answer all technical questions.

PROCEDURE WITH APPLICATIONS.

The authorities referred to examine the form of the application and convince themselves of the presence of the inclosures and the fee. If the article be debarred by law from being patented, as, for instance, medicines, the *Statthalterei* can refuse it. If everything be in order, the authorities, in the presence of the applicant, certify upon the sealed envelope the day and hour of the presentation, the presence of the fee, and give the applicant a receipt therefor. From this hour dates the priority of the invention in case of contest. The ministry opens the sealed specifications and accords the patent, or refuses it, or grants a delay to supply certain wanting details.

The issuance of a patent is always at the risk and cost of the patentee, *i. e.*, in the issuance of a patent the ministry does not consider whether the invention is really new in accordance with law. Should it subsequently

transpire that the invention is not new, or that it has been already patented, the patentee has to answer for his error or carelessness. The granting of a patent is made known by the ministry through official publications and duly registered.

Should the patent be granted for a shorter time than 15 years, at its expiration an application for extension can be made for a term sufficient to cover this period.

EXTENT OF A PATENT RIGHT.

A patent covers the whole Monarchy. It gives the patentee the sole right for the term mentioned to use his discovery, to erect the necessary shops for its manufacture, to sell it over the Monarchy, to dispose of it altogether or to leave it as a legacy, and to patent it in a foreign country.

The transfer of a patent must be reported to the ministry, registered, and notice given thereof. A second fee is not required.

COST OF A PATENT.

Those costs can only be considered which accrue in every case, and therefore are definite. The costs of preparing specifications, plans, models, etc., of course, vary with each case. The cost of making the application also varies in accordance with the difficulties of the case, although the difference will be less marked. The tax, however, can be stated definitely. It varies with the term of validity of the patent, and is as follows:

Years.	Tax.	Years.	Tax.
	Florins.		*Florins.*
6	130	11	360
7	165	12	430
8	205	13	510
9	250	14	600
10	300	15	700

NOTE.—1 florin may be reckoned as 40 cents.

As before stated, the amount of the tax must be forwarded with the application.

If, for example, A, on the 1st of September, 1891, applies for a patent for 10 years, he must on that date deposit 300 florins. If, at the expiration of 10 years, he wishes to extend his patent 5 years, he must inclose with his new application a sufficient amount to make up the 700 florins, viz, 400 florins. In addition to this is the fee for registration, which amounts to one-fourth of the above tax; in the above case, say, 175 florins. These fees include the taxes for both halves of the Monarchy. No fee is charged for the examination of the invention by the Government experts. A refund of the fee will only be made when the application is absolutely rejected or the patent right is withdrawn for public reasons, and, in the latter case, enough will be retained to cover the period the patent has already run. In all other cases the money will not be returned.

FORFEITURE OF A PATENT.

A patent may be declared invalid or withdrawn when it is shown that at the time of the application the supposed invention was not new; when, in Austria or in a foreign country, a patent had already been granted to another person for the same invention; when it is subsequently shown that the specifications were insufficient.

Canceling a patent takes place by its expiration, by renunciation, or when 1 year has elapsed since securing the patent without any steps having been taken to utilize it, or, having begun, a cessation of 2 years has occurred.

INFRINGEMENT AND PROCEDURE IN PATENT SUITS.

An infringement consists of (1) imitating or duplicating an invention, (2) introduction of imitated articles from a foreign country with the object of sale. The procedure and the competency of the authorities varies much in accordance with the nature of the infringement and the demands of the complainant.

The latter can, if circumstances justify it, begin a formal criminal process or content himself in proving damages and seek to confiscate or destroy the tools, manufactures, etc. He may also, when his statements seem credible, procure an injunction to stop the manufacture and protect himself against further damage. In case, however, the complainant fails to make a case, the injunction will be removed, and he is liable for all damages he may have caused. The authorities may demand security before issuing such an injunction.

JNO. B. HAWES,
Consul.

UNITED STATES CONSULATE,
Reichenberg, July 3, 1891.

AFFAIRS IN MATAMOROS.

REPORT BY CONSUL RICHARDSON.

PUBLIC HEALTH.

Since the 1st of April there has been general good health. There have been a few cases of smallpox of a mild type, with only one death. Were sanitary regulations better, Matamoros would be as good a place for summer residence as any city in this latitude and altitude.

AGRICULTURAL OUTLOOK.

In my dispatch dated April 4 I reported some signs of promise in this consular district and among them the almost certain prospect of good crops. Since then there has been no rain until July 4, when there was a fall of 2½ inches, but too late to be of any avail, and the crops are either badly damaged or entirely destroyed. This is, I think, the third year in succession

marked by a complete failure in consequence of drought. The grass was burned up and the water dried up. Cattle were dying everywhere. There were two unusual features to the loss in cattle this year. They die in bunches, both as to space and time, so that it is difficult to skin them in season to save the hides; and the cows have become so weakened by the past years of starvation that this year they are not able to pass through the period of calf-bearing, so there is a general loss of both cows and calves. The few hides that are obtained are comparatively worthless. The invoices of the coming year will be more suggestive than ever of a dead country. There is no live stock, no corn, little sugar, less hides, and more bones and horns.

With money going out of the country, as seen by the inclosed table, at the rate of $70,498 per annum for corn, one of the staple products of the soil and the main dependence of every Mexican family for food, this people is in a serious predicament. There have been rains up the river, so that there are areas from which some crops may be expected.

The only gleam of cheerfulness that I have been able to discern for the past few weeks has been on the faces of some who have reason to rejoice over the recent rise in the price of silver.

RAILROADS.

As I have before intimated, everything here turns upon the building of railroads, and I have no substantial progress to report. There are concessions and rumors of work going on, but the consul at Matamoros has no more reasonable expectation of getting out of this country by rail than he had when he came here. The surveyors of the San Antonio and Aransas Pass Railway are in the field and headed, it is believed, toward Brownsville. They have also under consideration entering Mexico at Rio Grande City. These surveys, of course, are only preliminary. The reputation of the road, however, justifies the expectation that they will build to the Rio Grande. If they enter Mexico at Rio Grande City and come into competition with the Mexican Central and Mexican National for the carrying trade between the United States and Mexico, it may become necessary to remove the consulate at Matamoros to Camargo. That is a contingency, however, that I do not think will arise, since the shortest pan-continental line will not leave two cities of the size and commercial importance of Matamoros and Brownsville on one side.

The Corpus Christi and South American people are working slowly toward Brownsville. There is now more hopefulness respecting the construction of this road than at any time since its formal inception.

It is rumored that work is soon to begin at Victoria on the Matamoros, Victoria, and San Luis Potosi Railway. The work of grading is going forward slowly at this end. It is expected that this road will be built. The surveyors have just arrived in this city to undertake the preliminary surveys of the Continental Railroad, a road which proposes to connect the Rio Grande

with the Guatemala frontier by the most direct route possible. The concession for this road was obtained by F. San Roman, a citizen of Brownsville. He has also obtained the needed concession for building a bridge across the Rio Grande at Brownsville. It is thought by many that this road gives a greater assurance of completion than any of the others. I may make this road the subject of a special report when in possession of certain data promised. When markets are brought to our doors by rapid transportation, we can bid defiance to droughts, for this entire valley is susceptible of irrigation. There is scarcely anything that can not be produced here in abundance with ordinary care and industry. The droughts of the past 3 years are something anomalous. The lower Rio Grande has been characterized by an excess rather than a deficiency of moisture. I have referred to these conditions frequently in my correspondence, because I have not yet been able to get over my amazement that a country with the possibilities of this, its population and wealth, should be so long without any adequate means of communication with the outside world, and I can not convince myself that roads would not have been built long ago but for the hopeless, procrastinating spirit which seems to be in the air here.

IMPORTS.

Table showing the amount and value of corn, corn meal, flour, and cattle imported at Matamoros during the year ended June 30, 1891.

Articles.	Half year ended December 31, 1890.		Half year ended June 30, 1891.		Total value.
	Quantity.	Value.	Quantity.	Value.	
Corn.....bushels...	35,281	$31,016	40,359	$38,237	$69,253
Corn meal.....barrels...	64	619	172	626	1,245
Flour.....do.....	4,727	31,037	5,711	35,949	66,986
Cattle.....number...	102	640	.....	.....	640
Total.....	.....	63,312	.....	74,812	138,124

JOHN B. RICHARDSON,
Consul.

UNITED STATES CONSULATE,
Matamoros, July 14, 1891.

FRENCH COMMERCE.

REPORT BY COMMERCIAL AGENT GRIFFIN, OF LIMOGES.

The official monthly report, together with a table of French imports and exports for the first 5 months of the year, has just been made public, and the figures there given present a very interesting study. The year 1890 was, in many respects, an excellent one for commerce; but various causes, internal as well as external, have wrought a considerable change in the amounts bought and sold.

The imports and exports for the month of May, 1890, were, in round numbers, 793,075,000 francs; in 1891, 660,505,000; showing a falling off of 132,570,000 francs. The greatest loss was in the importation of raw materials, which amounted to 64,258,000 francs. This produced a consequent decline of 26,274,000 francs in the exportation of manufactured articles, showing the intimate connection between the two.

Among other causes advanced in explanation of the decline in French commerce is the unsettled political and financial condition of certain South American countries with which France has very intimate commercial relations. While this may, in a measure, affect certain imports and exports, there are other causes militating against French commerce. The strikes, the increased duties on raw materials and manufactured articles, together with a general feeling of uncertainty, has produced disastrous effects on French trade. The immediate prospect is not encouraging. The certainty of a poor harvest, the high duty on breadstuffs, will increase the cost of living, wages will necessarily rise or the people will suffer for food, so that the prospects for the coming year are not very favorable.

The decline shown in the first 5 months will probably continue the rest of the year or until a change is made somewhere.

It is to be expected that after this month the importations of food products will increase, owing to the home shortage. The decline is general, the only exception being in general merchandise, as is shown by the following table of importations and exportations for the first 5 months of 1891:

IMPORTS.

Description.	First 5 months.		May.	
	1891.	1890.	1891.	1890.
	Francs.	*Francs.*	*Francs.*	*Francs.*
Food products	570,910,000	575,243,000	87,913,000	110,357,000
Raw materials	1,135,306,000	1,055,615,000	210,320,000	274,578,000
Manufactured articles	256,679,000	251,491,000	49,049,000	57,919,000
General merchandise	52,976,700	50,275,000	11,392,000	11,477,000
Total	2,015,871,700	1,922,614,000	358,674,000	454,331,000

EXPORTS.

Food products	295,052,000	332,581,000	61,349,000	71,938,000
Raw materials	310,965,000	314,433,000	77,717,000	81,505,000
Manufactured articles	757,818,000	800,244,000	139,183,000	166,457,000
General merchandise	95,367,000	86,874,000	23,582,000	18,844,000
Total	1,459,192,000	1,534,132,000	301,831,000	338,744,000

WALTER T. GRIFFIN,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Limoges, June 20, 1891.

STAFFORDSHIRE VS. AMERICAN POTTERY.

REPORT BY CONSUL BURGESS, OF TUNSTALL.

There is no point of observation in the world so well adapted to a comprehensive view of the pottery industry as that occupied by one situated in the great pottery district of England. The products of the Staffordshire potteries are known throughout the world, and a study of them, from whatever point of view taken, would prove interesting, particularly so to those who are directly interested in the like industry in other parts of the world. Were we to take up the subject from an artistic standpoint, we should find wonderfully rich fields, full of generations of study, growth, and culture. Were we to study the social questions, the relations between employer and employed, the working potter in his home life, the cost of living in all its details, in either or all would we find mines full of wealth of facts well worth the labor of getting. I have had, however, in mind the one idea in the collecting of material for my report that of obtaining as accurately as possible all the facts and figures entering into the cost of production of the ordinary classes of pottery wares commonly used in the everyday household of the millions, and of which the vast bulk of the output of the potteries for the American market consists.

I have obtained my information from a large number of the manufacturers—from some of the largest, as also from some of the smallest, in the district—and I desire hereby to acknowledge the uniform kindness, courtesy, and frankness with which I have been received.

In reporting the results of my investigations it will be interesting to compare the many items entering into the cost of production in the Staffordshire potteries of this country with the same items entering into the cost of production of the same class of wares made in Trenton, N. J. In the pottery industry there is no necessity for any approximates. The elements entering into the cost of production are fixed quantities alike in England and the United States. True it is that the exact methods of reaching these costs differ slightly, but can be reduced to a like basis and accurately compared. For example, the filling of the ovens, or kilns, differ, inasmuch as in England the work done is paid for by number of dozens of pieces of ware placed in the ovens; in the United States it is paid for by the number of bungs, or piles, of saggars (cases in which the ware is placed to be fired) placed in an oven, a given number of such bungs being considered a day's work. It is therefore easy to estimate the number of dozens of ware in an English oven or the number of bungs placed in a given time in an American oven. Thus I repeat that all the elements entering into the making cost price we can arrive at very accurately, and compare on a just and equal footing, and in such a way that no honest seeker after facts can be misled into error.

When we analyze the cost of production and resolve it into its elements, we find them to consist of the following:

(1) The interest account. The amount chargeable to this account depends, in the first place, on the current rate of interest and then on the amount of capital invested, including in this the amount invested in the plant in all its parts and that required for the working capital of the business. This is again divided into the active capital and the semiactive or that required to be locked up in the carrying of stock goods. The last item differs in amount very greatly in the two countries, inasmuch as the American potter has to take the place of both manufacturer and merchant to his customers. He must carry a large and assorted stock, so as to be ready at a moment's demand to fill his orders. A like order given by the same customer to an English manufacturer would not be expected to arrive within 2 or 3 months and would be patiently waited for. In the handling of English goods the merchant anticipates his wants. He it is who carries the stock goods, and it is his, and not the English potter's, capital that is locked up in stock goods. The consequence is that the American potter must, and does, manufacture for stock, while the English potter manufactures on orders. Taking into consideration the cost value of these stock goods, it is readily seen that it involves a large additional outlay of capital on the part of the American, as compared with the English, manufacturer; so great, indeed, that similar potteries as to capacity and class of trade handled which I have had the privilege of investigating will carry in England but about $10,000 worth of wares in stock and in course of manufacture, as against $50,000 in the United States.

(2) The taxes.

(3) The materials, including all costs and charges for freight, etc., laid down at the works.

(4) The labor, *i. e.*, the wages paid to the actual producers of the ware.

(5) The expenses, including wages paid the nonproducing help, the official and clerical help, and all other elements entering into the running expense of the factory.

I will not enter into the cost of disposing of the goods, although it is a large element in the expense account of every factory. Every manufacturer has his own methods, and the cost in this particular differs in the case of each individual concern, whether it be in England or the United States.

CAPITAL.

The amount of invested capital is an element differing greatly in the two countries. There are two ways of arriving at these facts. One—and perhaps the most satisfactory—way is to find the exact cost of plants of equal capacity in England and the United States. The capacity of a pottery plant is estimated by the number of its ware ovens, or kilns. An oven 16 feet 6 inches in diameter and 17 feet high is considered a standard oven, so that, by taking for the sake of comparison a well-equipped pottery of six-oven capacity, we can very accurately arrive at a satisfactory basis of values. The other

way is to take a well-fitted, model pottery and by intelligent estimates from practical builders arrive at the actual cost of a plant built on the same plans on both sides of the Atlantic.

Taking up the former idea, we find a great difference in the actual money invested in the plant proper. By the plant I mean the land, buildings, and machinery. Although there are many other items entering into the make-up of a complete pottery plant, yet we will consider these—such as saggars, molds, ware boards, tools, etc.—separately. In the construction of a pottery in the United States it is a matter of necessity to so arrange the plant as to make it suit the extremes of the American climate, thus necessitating an additional outlay of money in matters of proper heating and drying for the cold winter months and proper protection from the heat and storms of the summer. This is an item of much greater difference than one would at first suppose. Then, as has been intimated, the English manufacturers not requiring to carry large stocks of finished goods, there is therefore not the need of the large warehouses for the storing of the same, again cutting down the cost of the plant materially. The estimated cost, therefore, derived from the actual cost of two six-oven potteries, one in this (Staffordshire) district and one in Trenton, N. J., is $60,000 for the former and $72,000 for the latter.

Now, if we take our figures from estimates made on the same plans and specifications by competent contractors, building on lands similarly situated as to railway and canal conveniences, and making the above-mentioned allowances, we will arrive at substantially the same figures.

The next elements entering into the plant investment are, as already mentioned, saggars, molds, ware boards, tools, etc.

Saggars.—A pottery of the size we have taken for consideration would require for the most economic placing of the ware at least 15,000 saggars, assorted in size and shape to suit the class of ware handled. The average cost of these saggars, or cases, for material and labor in the assortment generally carried by the ordinary table and toilet ware manufacturers would be as shown in the following comparative table:

Description.	England.	United States.
	Cents.	*Cents.*
Average cost of material	2	5
Average cost of labor	2.22	4.38
Total average cost per saggar	4.22	9.38

Taking 15,000 saggars at 4.22 cents each, we have $633 as the cost of the English; and the same number of saggars at 9.38 cents gives the cost of the American as $1,407.

Molds.—The molds, as well as the saggars, ware boards, and tools, enter not only into the original cost of the plant, but are also a weighty element in the running expense of the business. The molds, being made of plaster

of Paris, are not of a very durable nature and require to be constantly replenished. The detail difference of the cost of material and labor are given elsewhere. The total number of working molds required for a six-oven pottery would be about 5,250 dozens, divided about as follows:

Table showing the approximate number and making price of molds required for a six-oven pottery in England and the United States.

Molds.	Quantity.	English cost of making.		American cost of making.	
		Rate.	Amount.	Rate.	Amount.
Bakers:					
3 inches.....dozens...	50	24 cents per dozen...	$12.00	40 cents per dozen...	$20.00
4 inches.....do.....	50	.....do.....	12.00	.....do.....	20.00
5 inches.....do.....	50	.....do.....	12.00	.....do.....	20.00
6 inches.....do.....	20	.....do.....	4.80	.....do.....	8.00
7 inches.....do.....	20	.....do.....	4.80	65 cents per dozen...	13.00
8 inches.....do.....	20	.....do.....	4.80	.....do.....	13.00
9 inches.....do.....	20	42 cents per dozen...	8.40	.....do.....	13.00
10 inches.....do.....	20	.....do.....	8.40	80 cents per dozen...	16.00
Bowls:					
24s.....	100	36 cents each.....	36.00	45 cents each.....	45.00
30s.....	100	.....do.....	36.00	.....do.....	45.00
36s.....	100	.....do.....	36.00	.....do.....	45.00
Punch—					
8 inches.....	60	12 cents each.....	7.20	25 cents each.....	15.00
9 inches.....	60	.....do.....	7.20	.....do.....	15.00
10 inches.....	60	.....do.....	7.20	.....do.....	15.00
12 inches.....	60	.....do.....	7.20	.....do.....	15.00
Butters:					
Covered.....	120	36 cents each.....	43.20	55 cents each.....	66.00
Individual.....dozens...	50	12 cents per dozen...	6.00	25 cents per dozen...	12.50
Casseroles, covered:					
6 inches.....	60	42 cents each.....	25.20	75 cents each.....	45.00
7 inches.....	60	.....do.....	25.20	.....do.....	45.00
8 inches.....	60	.....do.....	25.20	.....do.....	45.00
9 inches.....	60	.....do.....	25.20	.....do.....	45.00
Comports:					
7 inches.....	60	12 cents each.....	7.20	25 cents each.....	15.00
8 inches.....	60	.....do.....	7.20	.....do.....	15.00
9 inches.....	60	.....do.....	7.20	.....do.....	15.00
Cuspidors, No. 3.....	60	48 cents each.....	28.80	$1.25 each.....	75.00
Creams.....	120	18 cents each.....	21.60	35 cents each.....	42.00
Cover dishes:					
6s.....	120	42 cents each.....	50.40	75 cents each.....	90.00
7s.....	120	.....do.....	50.40	.....do	90.00
8s.....	120	.....do.....	50.40	.....do.....	90.00
9s.....	60	.....do.....	25.20	.....do.....	45.00
Cups:					
Coffee .....dozens...	200	24 cents per dozen...	48.00	40 cents per dozen...	80.00
Tea .....do.....	300	.....do.....	72.00	.....do.....	120.00
After-dinner.....do.....	100	.....do.....	24.00	.....do.....	40.00
Dishes:					
3 inches.....do.....	30	.....do.....	7.20	.....do.....	12.00
4 inches.....do.....	30	.....do.....	7.20	.....do.....	12.00
5 inches.....do.....	30	.....do.....	7.20	.....do.....	12.00
6 inches.....do.....	30	.....do.....	7.20	.....do.....	12.00
6 inches (single).....do.....	30	.....do.....	7.20	.....do.....	12.00
7 inches.....do.....	20	.....do.....	4.80	65 cents per dozen...	13.00
8 inches.....do.....	20	.....do.....	4.80	.....do.....	13.60
9 inches.....do.....	20	42 cents per dozen...	8.40	75 cents per dozen...	15.00
10 inches.....do.....	20	.....do.....	8.40	.....do.....	15.00

Table showing the approximate number and making price of molds, etc.—Continued.

Molds.	Quantity.	English cost of making.		American cost of making.	
		Rate.	Amount.	Rate.	Amount.
Dishes—Continued.					
11 inches.....dozens...	20	42 cents per dozen...	$8.40	75 cents per dozen...	$15.00
12 inches.....do.....	20	.....do.....	8.40	.....do.....	15.00
13 inches.....do.....	20	.....do.....	8.40	$1.40 per dozen.....	28.00
14 inches.....do.....	20	.....do.....	8.40	.....do.....	28.00
16 inches.....do.....	20	48 cents per dozen...	9.60	.....do.....	28.00
18 inches.....do.....	5	.....do.....	2.40	.....do.....	7.00
Ice creams:					
3½ inches.....do.....	50	14 cents per dozen...	7.00	30 cents per dozen...	15.00
4 inches.....do.....	50	.....do.....	7.00	.....do.....	15.00
4½ inches.....do.....	50	.....do.....	7.00	.....do.....	15.00
5 inches.....do.....	50	.....do.....	7.00	.....do.....	15.00
Jugs:					
4s.....	60	36 cents each.....	21.60	60 cents each.....	36.00
6s.....	60	28 cents each.....	16.80	55 cents each.....	33.00
12s.....	120	22 cents each.....	26.40	45 cents each.....	54.00
24s.....	120	.....do.....	26.40	35 cents each.....	66.00
30s.....	120	18 cents each.....	21.60	.....do.....	42.00
36s.....	120	.....do.....	21.60	.....do.....	42.00
42s.....	120	.....do.....	21.60	.....do.....	42.00
Mugs, 30s.....dozens...	30	20 cents per dozen...	6.00	35 cents per dozen...	10.50
Nappies:					
3 inches.....do.....	30	24 cents per dozen...	7.20	50 cents per dozen...	15.00
4 inches.....do.....	30	.....do.....	7.20	.....do.....	15.00
5 inches.....do.....	30	.....do.....	7.20	.....do.....	15.00
6 inches.....do.....	30	42 cents per dozen...	12.60	65 cents per dozen...	19.50
7 inches.....do.....	50	.....do.....	21.00	.....do.....	32.50
8 inches.....do.....	30	.....do.....	12.60	.....do.....	19.50
9 inches.....do.....	30	66 cents per dozen...	19.30	75 cents per dozen...	22.50
10 inches.....do.....	30	.....do.....	19.30	.....do.....	22.50
Pickles.....do.....	10	24 cents per dozen...	2.40	70 cents per dozen...	7.00
Plates:					
Flat—					
5 inches.....do.....	200	14 cents per dozen...	28.00	40 cents per dozen...	80.00
6 inches.....do.....	300	.....do.....	42.00	.....do.....	120.00
7 inches.....do.....	400	.....do.....	56.00	45 cents per dozen...	180.00
8 inches.....do.....	300	18 cents per dozen...	54.00	.....do.....	135.00
Deep—					
5 inches.....do.....	100	14 cents per dozen...	14.00	40 cents per dozen...	40.00
6 inches.....do.....	200	.....do.....	28.00	.....do.....	80.00
7 inches.....do.....	300	.....do.....	42.00	45 cents per dozen...	135.00
8 inches.....do.....	100	18 cents per dozen...	18.00	.....do.....	45.00
Cake.....do.....	50	13 cents per dozen...	9.00	.....do.....	22.50
Cup.....do.....	100	14 cents per dozen...	14.00	30 cents per dozen...	14.00
Salads:					
8 inches.....	60	14 cents each.....	8.40	30 cents each.....	18.00
9 inches.....	60	.....do.....	8.40	.....do.....	18.00
Sauce boats.....	120	20 cents each.....	24.00	45 cents each.....	54.00
Saucers:					
Coffee.....dozens...	200	14 cents per dozen...	28.00	30 cents per dozen...	60.00
Tea.....do.....	400	.....do.....	56.00	.....do.....	120.00
After-dinner.....do.....	100	.....do.....	14.00	.....do.....	30.00
Sugars, 30s.....	120	36 cents each.....	43.20	75 cents each.....	90.00
Teapots.....	120	48 cents each.....	57.60	95 cents each.....	114.00
Tureens:					
Sauce.....	60	40 cents each.....	24.00	75 cents each.....	45.00
Stands.....	60	2 cents each.....	1.20	10 cents each.....	6.00
Ladles.....	60	6 cents each.....	3.60	15 cents each.....	9.00

Table showing the approximate number and making price of molds, etc.—Continued.

Molds.	Quantity.	English cost of making.		American cost of making.	
		Rate.	Amount.	Rate.	Amount.
Tureens—Continued.					
Soup	60	60 cents each	$36.00	$1 each	$60.00
Stands	60	4 cents each	2.40	15 cents each	9.00
Ladles	60	9 cents each	5.40	do	9.00
Brush vases	360	12 cents each	43.20	30 cents each	108.00
Basins dozens	50	96 cents per dozen	48.00	$1.75 per dozen	87.50
Chambers, covered	360	60 cents each	216.00	85 cents each	306.00
Ewers	360	36 cents each	129.60	70 cents each	252.00
Mouth ewers	360	22 cents each	79.20	50 cents each	180.00
Soaps, covered	480	28 cents each	134.40	do	240.00
Slop jars	120	84 cents each	100.80	$1.65 each	198.00
Total			2,522.60		4,949.50

The value of block and case molds requisite for the making of the above working molds, figured out at the prices given elsewhere in this report for this class of labor, amounts to $224.56 for English and $750.75 for American.

The plaster of Paris used in the making of these molds would be about 2,000 pounds, costing in England $1,720 and in the United States $2,900.

The aggregate English cost of the molds being $4,467.16 and the American cost being $8,600.25, we add these figures to their respective plants.

Ware boards, etc.—The matter of ware boards, saggar boards, tools, baskets, and sundries being, for our purpose, an inconsiderable item and differing very little in cost in the two countries (the largest item being ware boards—English cost, 24 cents; American, 25 cents), we will put them, for the sake of completeness, at $2,000 each. We thus have the items entering into the cost of our plant investment as follows:

Description.	English.	American.
Land, buildings, machinery, and fixtures	$60,000.00	$72,000.00
Saggars	633.00	1,407.00
Molds	4,467.16	8,600.25
Ware boards, etc	2,000.00	2,000.00
Total	67,100.16	84,007.25

These amounts, together with the moneys invested as working capital, will be the total amount on which to figure the interest and tax elements of the cost of production.

There is also great difference in the methods of conducting business on the two sides of the Atlantic. These differences enter into the element of cost in many cases. A concern disposing of its product on a spot-cash basis can, of course, conduct its business with a much smaller investment of capital than can one which is required to give extended credit. This is the case with many English concerns. Their invoices are cashed on presentation to

the shipper or banker acting as agent for the purchaser immediately on the shipment of the goods, the only requirement being a guaranty of actual shipment. The railway bill of lading in these cases is sufficient. The American manufacturer, on the other hand, must wait from 30 days to 4 months for his returns. I do not for a moment wish to be understood to state that all the English manufactories conduct their business in this way, for some of the larger concerns do give large and extended credit to some American houses. Having capital to invest in this way, they are glad to avail themselves of the higher rate of interest paid in the United States. Nevertheless, very many of the manufacturers transact their business only on a cash basis.

Opportunities present themselves here to men of small capital which are not to be found in the United States. Many of the manufactories here are not owned by those who operate them, but are rented at low rates. They rent, according to circumstances, at from $1,800 to $2,500 per annum for a good six-oven pottery. Add to this the rates and taxes which the tenant must pay at the rate of 4*s.* on £1, or three-fourths of the rental value of the property, or 20 per cent. on, say, $1,650, or a total rent for a good, well-equipped pottery of $2,530. Persons or firms doing business in this way, requiring to carry little or no stock and receiving prompt cash for their product, are enabled to turn over their capital many times to the Americans' once or twice in the course of a year.

It is a hard matter to get at the actual amount of money invested in any concern as capital; but from observation, from facts kindly given me in individual cases, and for the reasons given above, I am within the bounds in stating that English pottery manufacturers require about $10,000 to be locked up in slow-moving stock and $20,000 for use in the active operations of the business, as against $50,000 in stock and $30,000 in active use in the United States; or, in other words, a total of $30,000 as against $80,000 in the respective plants as the working capital. Adding these figures to those given above as the total cost of the plant, we have—

Description.	English.	American.
Amount invested in plant	$67,100.16	$84,007.25
Amount invested in working capital	30,000.00	80,000.00
Total	97,100.16	164,007.25

TAXES.

The taxes are assessed in Trenton at about two-thirds of the actual value of the real and personal property, the rate being $1.75 per $100, while in the English pottery district the rates and taxes are assessed on three-fourths of the rental value and are divided as follows:

(1) General district rate (taking the town of Burslem for example) of 2*s.* 6*d.* per £1. This is assessed for the maintenance of markets, roads, sewerage, street-lighting, etc.

(2) Poor rate of 1*s.* per £1.

(3) Borough rate of 6*d.* per £1 for the maintenance of the Wedgwood Institute, free library, cemetery, etc.

The property is valued by an official appointed by the town council. The rental value varies from £40 to £100 ($194.66 to $486.65) per oven, according to the class of property. Old and out-of-date works are assessed at the lower rate, while works of modern build, with all latest improvements in machinery, are assessed at the higher figure. I have taken for example a six-oven pottery of somewhat modern type rated at £75 ($360) rental value per oven; total, £450 ($2,160), which brings the amount on which the rates are charged to £337 10*s.* ($1,620). The amount of rates, therefore, paid per year, at a total of 4*s.* (96 cents) per £1, would be £67 10*s.* ($324).

MATERIALS.

The materials may be divided into two classes: (1) those entering into the actual body and glaze of the ware, and (2) those required in the process of manufacture and not entering into the body or glaze.

Table showing list of materials entering into the body and glaze, with cost thereof in England and the United States.

Description.	England.	United States.
China clay:		
American.....per ton of 2,240 pounds...	.....	$12.00
English.....do.....	$8.00	13.25
Ball clay:		
American.....do.....	.....	7.50
English.....do.....	7.08	10.50
Flint, dry.....do.....	10.95	11.00
Spar, dry.....do.....	13.20	13.25
Stone.....do.....	12.00	.....
Zinc oxide.....per pound...	.04	.05½
Lead oxide.....do.....	.03 9/10	.06½
Whiting.....per 100 pounds...	.37	.55
Boracic acid.....per pound...	.05½	.11½
Cobalt, prepared.....do.....	2.02	3.00

Table showing list of materials not entering into the body or glaze, with cost thereof in England and the United States.

Description.	England.	United States.
Saggar marl.....per ton...	*$0.90	*$2.25
Wad clay.....do.....	.96	2.00
Sand.....do.....	3.36	3.50
Plaster of Paris.....	†.86	‡1.45
Straw:		
Oat.....per ton...	9.60	11.06
Rye.....do.....	13.20	15.00
Coal and slack.....do.....	2.10	4.10

* Average. † Per 100 pounds. ‡ Per barrel.

LABOR.

The following table shows the comparative wages paid in England and the United States for articles in common use. The English figures are considered to be standard in the pottery district. Lower figures, as well as figures that are slightly higher, are paid in some instances, owing to the peculiar circumstances and conditions of the particular pottery. Where the conditions are particularly favorable, less wages are paid; and where unavoidable inconveniences occur, a slightly higher rate is sometimes paid. The American figures are taken from the standard American working price list. All prices—both English and American—are computed on a net American currency basis, allowing 24 cents to the English shilling, and are also calculated at the rate of 12 articles to the dozen good from hand.

Table showing potters' working price list.

Articles.	Net price paid for making.		Difference.
	English.	American.	
Flat pressed ware.			
Bakers:			*Per cent.*
3 inches	$0.0665	$0.089	34
4 inches	.0665	.0979	47.2
5 inches	.076	.1068	40.5
6 inches	.076	.1157	52.2
7 inches	.0855	.1246	45.7
8 inches	.095	.1424	50
9 inches	.1045	.1602	53.3
10 inches	.114	.178	56
11 inches	.114	.1958	72
12 inches	.114	.2136	87.4
Dishes:			
3 inches	.0665	.089	34
4 inches	.0665	.0979	47.2
5 inches	.076	.1068	40.5
6 inches	.095	.1157	21.8
7 inches	.095	.1246	31
8 inches	.095	.1424	50
9 inches	.114	.1602	40.5
10 inches	.114	.178	56
11 inches	.1235	.1958	58.5
12 inches	.1235	.2136	73
14 inches	.171	.2848	66.5
16 inches	.19	.356	87.4
Average percentage of difference			52.03
Pressed goods.			
Brush vases	.209	.445	113
Covered butters	.551	.623	13
Cake plates	.152	.534	251
Covered chambers:			
6s	.45	.9345	107.6
9s	.45	.8455	87.8
Comports:			
7s	.285	.4885	70
8s	.285	.534	88
9s	.323	.5785	

Table showing potters' working price list.—Continued.

Articles.	Net price paid for making.		Difference.
	English.	American.	
Pressed goods—Continued.			
Cuspidors:			*Per cent.*
2s	$0.722	$1.246	72.6
1s	.912	1.424	56
Cover dishes:			
7s	.627	.989	57.5
8s	.684	1.068	56
9s	.741	1.2015	62
10s	.798	1.335	67.3
Covered casseroles:			
7s	.627	.9345	49
8s	.684	1.0235	49.6
9s	.76	1.157	52.2
10s	.798	1.2905	60
Creams:			
24s	.247	.4361	76.4
30s	.228	.409	80
Ewers:			
6s	.627	.89	42
9s	.57	.801	40
Mouth	.24	.409	70.4
Jugs:			
4s	.48	.8277	72
6s	.42	.6764	61
12s	.33	.534	62
24s	.28	.4361	56
30s	.24	.409	70.4
36s	.24	.3471	44.6
Salads:			
7s	.2945	.6319	114
8s	.3515	.7292	107.4
9s	.466	.8188	75.7
10s	.494	.9167	85.6
Sauce boats	.266	.4094	53.9
Sauce tureens	.627	.9701	54.7
Sauce stands	.209	.3204	53
Sauce ladles	.095	.2403	153
Slop jars	2.052	2.314	12.7
Covered soaps	.418	.5785	38.4
Soup tureens:			
Complete—			
9s	1.596	2.67	60.7
10s	1.824	2.8925	58.5
Stands—			
9s	.418	.534	27.7
10s	.418	.623	49
Ladles	.171	.3115	82.2
Parlor spittoons	.228	.6675	193
Sugars:			
24s	.418	.623	49
30s	.38	.5785	52.3
36s	.342	.534	56
Teapots:			
18s	.627	1.157	84.5
24s	.57	.9701	70
30s	.513	.8722	70
Average percentage of difference			71.9

Table showing potters' working price list.—Continued.

Articles.	Net price paid for making.		Difference.
	English.	American.	
Jiggered goods.			
Bowls:			*Per cent.*
24s	$0.033	$0.0535	62
30s	.0264	.0535	103
36s	.022	.0535	143
42s	.0188	.0535	184.5
Butters, individual	.012	.0328	173
Basins:			
6s	.20	.368	84
9s	.18	.328	82
Cups:			
Coffee	.014	.0478	241.4
Tea	.014	.0413	195
After-dinner	.014	.0348	141
Toy	.014	.0348	141
Saucers:			
Coffee	.018	.0451	150
Tea	.016	.0389	143
After-dinner	.012	.0369	207
Toy	.012	.0369	207
Fruit—			
3½ inches	.016	.0328	105
4 inches	.016	.0328	105
4½ inches	.016	.0328	105
5 inches	.016	.041	156
Ice creams:			
3 inches	.016	.0328	105
3½ inches	.016	.0328	105
4 inches	.016	.0328	105
4½ inches	.016	.0328	105
5 inches	.016	.041	156
6 inches	.016	.041	156
Mugs:			
24s	.036	.0783	117
30s	.0288	.0696	141.7
36s	.024	.0609	154
42s	.0205	.0522	153.6
Nappies:			
3s	.06	.0918	53
4s	.06	.1002	66.6
5s	.08	.1085	35.8
6s	.08	.1169	46
7s	.09	.1336	48.4
8s	.09	.1503	67
9s	.11	.167	51.8
10s	.12	.2004	67
Plates:			
Flat—			
4 inches	.016	.041	156
5 inches	.018	.066	266
6 inches	.0305	.0742	262
7 inches	.025	.0825	230
8 inches	.029	.0907	213
10 inches	.036	.1066	196
Deep—			
4 inches	.016	.0492	208
5 inches	.018	.0742	312
6 inches	.0205	.0825	302

Table showing potters' working price list.—Continued.

Articles.	Net price paid for making.		Difference.
	English.	American.	
Jiggered goods—Continued.			
Plates—Continued.			
Deep—Continued.			*Per cent.*
7 inches	$0.025	$0.0907	263
8 inches	.029	.0984	240
10 inches	.036	.1148	219
Festoon—			
5 inches	.019	.0825	334
6 inches	.0225	.0907	303
7 inches	.028	.099	253.6
8 inches	.033	.1072	225
Deep:			
5 inches	.019	.0907	377
6 inches	.0225	.099	340
7 inches	.028	.1072	283
8 inches	.033	.1155	250
Cake	.10	.205	105
Cup	.016	.0328	105
Average percentage of difference			168.1
Throwing.			
Bowls:			
24s	.03	.0435	45
30s	.024	.0391	63
36s	.02	.034	70
42s	.0171	.034	99
Mugs:			
24s	.03	.0522	74
30s	.024	.0435	81
36s	.02	.034	70
42s	.0171	.0261	52.6
Sugars:			
24s	.075	.0957	27.6
30s	.075	.087	16
Average percentage of difference			59.8
Turning.			
Bowls:			
24s	.0304	.06	97.3
30s	.0243	.055	126.3
36s	.02	.05	150
42s	.0174	.05	190
Mugs:			
24s	.0304	.085	180
30s	.0243	.075	209
36s	.02	.07	250
42s	.0174	.06	245
Sugars:			
24s	.152	.195	28
30s	.152	.185	21.6
Average percentage of difference			149.4
Handling.			
Cups:			
Coffee	.016	.04	150
After-dinner	.014	.03	114
Tea	.014	.035	150
Toy	.014	.03	114

Table showing potters' working price list—Continued.

Articles.	Net price paid for making.		Difference.
	English.	American.	
Handling—Continued.			
Mugs:			*Per cent.*
24s	$0.03	$0.06	100
30s	.024	.06	150
36s	.02	.06	200
42s	.0171	.06	251
Average percentage of difference			153.6
Saggar-making.			
Common heights	.01	.0368	268
Single banjo	.036	.0644	80
Quarts	.03	.0414	38
3 pints	.03	.046	53
Slop jars	.036	.046	28
Cup saggars	.01	.0276	176
Hillers	.01	.0276	176
Plate:			
Glost	.02	.0552	176
Biscuit	.01	.0376	246
Wash bowl	.03	.0552	84
Average percentage of difference			135.5
Total average percentage of difference			126.9

Table showing mold-makers' price list.

Articles.	Blocking.			Casing.			Mold-making.		
	English price.	American price.	Difference.	English price.	American price.	Difference.	English price.	American price.	Difference.
Bakers:			*Per cent.*			*Per cent.*			*Per cent.*
3 inches	16 cents each	30 cents each	87½	16 cents each	30 cents each	87½	24 cents per dozen	40 cents per dozen	66
4 inches	do	do	87½	do	do	87½	do	do	66
5 inches	do	do	87½	do	do	87½	do	do	66
6 inches	do	do	87½	do	do	87½	do	do	66
7 inches	do	do	87½	do	do	87½	do	65 cents per dozen	171
8 inches	do	do	87½	do	do	87½	do	do	171
9 inches	do	do	87½	do	do	87½	42 cents per dozen	do	55
10 inches	do	do	87½	do	do	87½	do	80 cents per dozen	90
11 inches	do	do	87½	do	do	87½	do	do	90
12 inches	do	do	87½	do	do	87½	do	do	90
Basins:									
Outside	25 cents each	50 cents each	100	30 cents each	50 cents each	67	96 cents per dozen	$1.50 per dozen	56
Inside	do	do	100	do	do	67	do	$1.75 per dozen	82
Bowls:									
24s	6 cents each	do	733	do	do	67	36 cents per dozen	45 cents per dozen	25
30s	do	do	733	do	do	67	do	do	25
36s	do	do	733	do	do	67	do	do	25
42s	do	do	733	do	do	67	do	40 cents per dozen	11
Punch bowls	25 cents each	do	100	do	do	67	12 cents each	25 cents each	108
Brush vases	30 cents each	$1.05 each	250	do	$1.05 each	250	do	30 cents each	150
Butters:									
Covered	64 cents each	$1.70 each	166	64 cents each	$1.70 each	166	36 cents each	55 cents each	53
Individual	12 cents each	34 cents each	183	12 cents each	34 cents each	183	12 cents per dozen	25 cents per dozen	108
Cake plates	do	45 cents each	275	do	45 cents each	275	4 cents each	15 cents each	275
Chambers:									
Covered	96 cents each	$2.65 each	176	96 cents each	$2.65 each	176	54 cents each	85 cents each	57
Handles	8 cents each	30 cents each	275	8 cents each	30 cents each	275	5 cents each	10 cents each	100
Bows	6 cents each	20 cents each	233	6 cents each	20 cents each	233	4 cents each	8 cents each	100
Coffee cups	4 cents each	35 cents each	775	24 cents each	35 cents each	38½	24 cents per dozen	40 cents per dozen	66
Comports	27 cents each	$1.05 each	289	27 cents each	$1.05 each	289	12 cents each	25 cents each	108
Cuspidors	72 cents each	$2.05 each	182	72 cents each	$2.05 each	182	48 cents each	$1.25 each	160
Covered dishes	69 cents each	$2.40 each	248	69 cents each	$2.40 each	248	42 cents each	75 cents each	79

Creams (30s)	26 cents each	$1.35 each	419	26 cents each	$1.35 each	419	18 cents each	35 cents each	94
Dishes:									
2½ inches	16 cents each	30 cents each	87½	16 cents each	30 cents each	87½	24 cents per dozen	40 cents per dozen	66
3 inches	do	do	87½	do	do	87½	do	do	66
4 inches	do	do	87½	do	do	87½	do	do	66
5 inches	do	do	87½	do	do	87½	do	do	66
6 inches	do	do	87½	do	do	87½	do	do	66
7 inches	do	do	87½	do	do	87½	do	65 cents per dozen	171
8 inches	do	do	87½	do	do	87½	do	do	171
9 inches	do	do	87½	do	do	87½	42 cents per dozen	75 cents per dozen	79
10 inches	do	do	87½	do	do	87½	do	do	79
11 inches	do	do	87½	do	do	87½	do	do	79
12 inches	do	do	87½	do	do	87½	do	do	79
14 inches	do	45 cents each	181	do	45 cents each	181	do	$1.40 each	233
16 inches	24 cents each	do	79	24 cents each	do	79	48 cents per dozen	do	192
Ewers (9s)	54 cents each	$2.05 each	243	54 cents each	$2.05 each	243	36 cents each	70 cents each	94
Mouth	27 cents each	$1.35 each	400	29 cents each	$1.35 each	400	20 cents each	50 cents each	150
Ice creams	12 cents each	35 cents each	175	12 cents each	35 cents each	175	14 cents per dozen	30 cents per dozen	115
Jugs:									
4s	54 cents each	$1.90 each	252	54 cents each	$1.90 each	252	36 cents each	60 cents each	67
6s	42 cents each	do	352	42 cents each	do	352	28 cents each	55 cents each	97
12s	33 cents each	do	476	33 cents each	do	476	22 cents each	45 cents each	105
24s	do	$1.35 each	309	do	$1.35 each	309	do	35 cents each	59
30s	27 cents each	do	400	27 cents each	do	400	18 cents each	do	94
36s	do	do	400	do	do	400	do	do	94
42s	do	do	400	do	do	400	do	do	94
Ladles:									67
Soup	14 cents each	85 cents each	507	14 cents each	85 cents each	507	9 cents each	15 cents each	
Sauce	do	do	507	do	do	507	6 cents each	do	150
Cups	4 cents each	35 cents each	775	24 cents each	35 cents each	37½	16 cents per dozen	40 cents per dozen	150
Mugs, pressed	30 cents each	$1.30 each	333	30 cents each	$1.30 each	333	20 cents each	30 cents each	50
Nappies:									
2½ inches	24 cents each	50 cents each	108	24 cents each	50 cents each	108	24 cents each	50 cents each	108
3 inches	do	do	108	do	do	108	do	do	108
4 inches	do	do	108	do	do	108	do	do	108
5 inches	do	do	108	do	do	108	do	do	108
6 inches	do	do	108	do	do	108	42 cents each	65 cents each	55
7 inches	do	do	108	do	do	108	do	do	55
8 inches	do	do	108	do	do	108	do	do	55

Table showing mold-makers' price list—Continued.

Articles.	Blocking.			Casing.			Mold-making.		
	English price.	American price.	Difference.	English price.	American price.	Difference.	English price.	American price.	Difference.
Nappies—Continued.			*Per cent.*			*Per cent.*			*Per cent.*
9 inches	24 cents each	50 cents each	108	24 cents each	50 cents each	108	60 cents each	75 cents each	25
10 inches	do	do	108	do	do	108	do	do	25
Pickles	6 cents each	30 cents each	212½	6 cents each	30 cents each	400	24 cents each	70 cents each	192
Plates:									
2½ inches	12 cents each	37½ cents each.	212½	12 cents each	37½ cents each.	212½	14 cents each	35 cents each	150
3 inches	do	do	212½	do	do	212½	do	do	150
4 inches	do	do	212½	do	do	212½	do	do	150
5 inches	do	do	212½	do	do	212½	do	40 cents each	186
6 inches	do	do	212½	do	do	212½	do	do	186
7 inches	do	do	212½	do	do	212½	do	45 cents each	221
8 inches	do	do	212½	do	do	212½	18 cents each	do	150
Salads	27 cents each	$1.05 each	289	27 cents each	$1.05 each	289	14 cents each	do	221
Saucers	12 cents each	35 cents each	175	12 cents each	35 cents each	175	14 cents per dozen	30 cents per dozen	114
After-dinner	do	do	175	do	do	175	do	do	114
Fruit	do	do	175	do	do	175	do	do	114
Sauce boats, complete	30 cents each	$1.50 each	400	30 cents each	$1.50 each	400	20 cents each	45 cents each	125
Sauce tureens	60 cents each	$2.40 each	300	60 cents each	$2.40 each	300	40 cents each	75 cents each	87
Soup tureens	90 cents each	$3.15 each	250	90 cents each	$3.15 each	250	60 cents each	$1 each	67
Slop jars, No. 2	$1.26 each	$2.60 each	106	$1.26 each	$2.60 each	106	84 cents each	$1.65 each	96
Soaps, covered	42 cents each	$1.90 each	352	42 cents each	$1.90 each	352	28 cents each	50 cents each	79
Sugars	54 cents each	$2.25 each	316	54 cents each	$2.25 each	316	36 cents each	75 cents each	108
Teapots, complete	72 cents each	$2.65 each	268	72 cents each	$2.65 each	268	48 cents each	95 cents each	98
Cups:									
After-dinner	4 cents each	35 cents each	775	24 cents each	35 cents each	37½	24 cents per dozen	35 cents per dozen	37½
Tea	do	do	775	do	do	37½	do	45 cents per dozen	66
Cup and mug handles	6 cents each	30 cents each	400	6 cents each	30 cents each	400	4 cents each	8 cents each	100
Chamber and jug handles	8 cents each	do	625	8 cents each	do	625	5 cents each	10 cents each	100
Day work	$1.44 each	$3 each	108	$1.44 each	$3 each	108	$1.44 each	$2.50 each	174
Total average difference			255			190			103

Oven labor (*kilnmen*).—As has already been stated, the method of paying for the oven, or kiln, work differs somewhat on the two sides of the ocean. In England the work is paid for according to the actual number of pieces of ware placed in the oven to be fired, or, more correctly, the count is really made after the ware has been burnt and drawn from the oven. This oven count differs slightly in the different potteries, but the following is considered the most satisfactory: The number of pieces allowed to the dozen count is reckoned according to the size of the articles counted—the larger the pieces the fewer the number to be allowed to the dozen; for instance, a count of 1 dozen pieces is allowed for 1 slop jar, but 36 cups must be placed to receive the same amount of pay.

The following is a list of the count in the settlement of which they always pay by the score dozen, or twenty times each of the dozens below enumerated, at the rate of 20 cents per score dozen in the case of the biscuit ovens and of 32 cents per score dozen in the glost oven.

Table showing English oven count.

Articles.	Allowed to dozen count.	Articles.	Allowed to dozen count.
Bakers (5 to 12 inches)	6	Pickles, salad and sauce boats	2
Bowls:		Saucers (all sizes)	36
24s	24	Sugars:	
30s	30	24s	24
36s	36	30s	30
42s	42	36s	36
Butters, covered	4	Teapots:	
Casseroles and cover dishes	2	18s	18
Comports	2	24s	24
Creams:		30s	30
30s	30	Tureens:	
36s	36	Sauce	6
Cuspidors	1	Soup	1
Cups, all sizes	36	Stands	6
Dishes:		Ladles	6
7 to 14 inches	6	Basins:	
16 and 18 inches	2	6s	6
Jugs:		9s	9
All sizes (biscuit)	12	Covered chambers:	
6s (glost)	6	6s (6 pieces)	3
12s	12	9s (9 pieces)	4½
24s	24	Ewers:	
30s	30	6s	6
36s	36	9s	9
42s	42	Covered soaps	6
Mugs:		Slop jars	1
24s	24	Slop pails	1
30s	30	Mouth ewers:	
36s	36	Glost	24
Nappies (5 to 12 inches)	6	Biscuit	12

All other articles and sizes not enumerated in the above list are counted 12 to the dozen.

An average biscuit oven of 16 feet 6 inches numbering (actual average of ovens counted) about 1,805 (English count) dozens, or 2,230 dozens of 12 to

the dozen, at 20 cents per score dozen (90¼ score dozens), would amount to $18.05 for placing and drawing. The head ovenman has the entire charge of the placing and drawing of the ware. He hires his own men, paying them $1.10 per day and depending for his own remuneration on his knowledge and skill in placing the greatest number of dozens possible in the oven. This is, of course, always an incentive to the head ovenman to fill to the uttermost every nook and corner of every saggar. This is of great advantage to the manufacturer, as there is no more coal consumed in the burning of a full oven with, say, 1,800 dozens of ware than there is in the burning of one with half the amount of ware in the saggars.

In the United States the same biscuit oven (16 feet 6 inches) would require 9 men 2 days to place and 10 men 1 day to draw at the rate of $2 per day per man, or a total for the 28 days of $56 for the placing and drawing of the oven, as against $18.05, as above, to the English manufacturer.

The same holds good with reference to the second, or glost, burning. A glost oven of 16 feet 6 inches in England, containing 1,660 dozens, English count (1,451 dozens of 12 to the dozen), at 32 cents per score dozen, would amount to $26.56, as against 36 days' placing and drawing at $2 per day, or $72, in the United States—a percentage of difference in favor of the English manufacturer in the case of the biscuit oven of 210 per cent. and in the glost oven of 171 per cent. As will be noticed, the contents of an oven differ greatly, counting 12 to the dozen according to the class of ware placed; for instance, 1 dozen slop jars or ewers would occupy as much space as a large number of dozens of tea or after-dinner coffee cups, or saucers, or butter pads. The biscuit oven counted contained a large number of cups, saucers, bowls, etc., counting three times as many to the American dozen as to the English dozen; thus the American count is 2,230 dozens, as against 1,805 dozens in the English count. The reverse was the case with the glost ovens I happened to count, containing more large pieces, such as cover dishes, comports, soup tureens, etc., counting from six to twelve times as much in the English as in the American count. The total footing was 1,451 dozens to the American, as against 1,660 dozens to the English, count.

The above table has been found to be a very accurate method of arriving at the proper and proportionate count of an oven. The head ovenman is guarantied a minimum count. In the case of the biscuit oven it is 1,800 dozens, or an allowance of 16 days for placing and drawing at $1.10 per day, making $17.60, the difference between this amount and the guaranty of $18 being his own bonus. In the case of the glost oven 1,600 dozens are guarantied, or an allowance of 23 days for placing and drawing at the same rate per day.

SUNDRY EXPENSES.

The following table gives a fair average of the wages paid to the non-producing help necessary to the running of a pottery, and not included in the labor table. Of course, in some instances it is impossible to arrive at definite figures, as the individual ability and consequent worth of, for instance,

a bookkeeper or a manager differ greatly. Both in England and the United States we have numerous examples of cases receiving greater or less pay than the figures given below:

Occupation.	England.	United States.	Difference.
			Per cent.
Bookkeeper.....per week...	$7.75	$15.00	94
Office clerks.....do.....	4.70	8.50	81
Office boys.....do.....	1.20	3.50	192
Teamsters.....do.....	6.00	10.50	75
Engineers.....do.....	8.40	15.00	78
Odd men.....do.....	4.82	7.50	56
Oven firemen.....do.....	12.00	18.00	50
Decorating kiln firemen.....per kiln...	1.68	3.50	108
Head biscuit-brusher.....do.....	2.16	5.00	131
Head glost-dresser.....do.....	2.16	6.00	177
Biscuit-ware girls.....do.....	1.44	4.00	180
Glost-ware girls.....do.....	1.44	5.00	247
Warehousemen.....per week...	7.20	14.00	94
Selectors.....do.....	3.36	7.00	109
Polishers.....do.....	2.16	7.50	247
Slip-makers.....do.....	6.48	10.00	54
Pug-mill men.....do.....	4.50	11.00	144
Dippers.....do.....	10.50	20.00	90
Dippers' help:			
Women.....do.....	2.16	5.00	131
Boys.....do.....	1.68	3.50	108
Night watchmen.....do.....	6.48	12.00	35
Managers.....do.....	14.40	25.00	74
Foremen.....do.....	8.25	16.50	100

Having all the above facts and figures before us, we can calculate with a reasonable degree of accuracy the relative cost of white earthenware in England and the United States. I have taken the actual output of a six-oven pottery as a basis to work from and have taken the different items of cost as they actually occurred, viz, the potters' piecework wages, the oven work (actual number of ovens placed, biscuit and glost), and all other labor—day wage or piecework—entering into the cost of making, such as firemen, dippers, biscuit and glost warehouse work, foremen, engineers, slip-makers, teamsters, etc.; also the cost of management and office wages. I have also taken the actual amount of materials used, dividing, as above, into those used in the body and glaze of the ware and those used in the process of manufacture only. The results I give somewhat in detail. The figures show an interesting difference as to the ratio labor holds to materials in the two countries.

Table showing the actual output for 1 year of a six-oven pottery, giving the comparative cost, as to potters' wages, in England and the United States, both in the aggregate and in detail.

Articles.	Quantity.	English price for making.		American price for making.	
		Net.	Total.	Net.	Total.
Bakers:	*Dozens.*				
2½ inches	450	$0.066	$29.70	$0.089	$40.05
3 inches	75	.066	4.95	.089	6.67
4 inches	25	.066	1.65	.098	2.45
5 inches	25	.076	1.90	.107	2.67
5 inches (single)	200	.076	15.20	.107	21.40
6 inches	330	.076	24.08	.116	38.28
7 inches	850	.085	72.25	.125	106.25
8 inches	550	.095	52.25	.142	78.10
9 inches	375	.104	39.00	.16	60.00
10 inches	500	.114	57.00	.178	89.00
Bowls:					
Oyster (30s)	800	.026	20.80	.053	42.40
24s	1,000	.033	33.00	.053	53.00
30s	3,500	.026	91.00	.053	185.50
36s	1,000	.022	22.00	.053	53.00
Butters:					
Covered	400	.551	220.40	.623	249.20
Individual	4,000	.012	48.00	.033	132.00
Casseroles, covered:					
7 inches	100	.627	62.70	.989	98.90
8 inches	125	.684	85.50	1.068	133.50
9 inches	50	.741	37.05	1.201	60.05
Comports (8 inches)	100	.285	28.50	.488	48.80
Cuspidors (2s)	100	.722	72.20	1.246	124.60
Cover dishes:					
7 inches	200	.627	125.40	.989	197.80
8 inches	800	.684	547.20	1.068	854.40
Creams (30s)	700	.228	159.60	.409	286.30
Coffees:					
Unhandled	4,000	.014	56.00	.048	192.00
Handled	10,000	.03	300.00	.088	880.00
Teas	20,000	.028	560.00	.076	1,520.00
Dishes:					
4 inches	125	.066	8.25	.098	12.25
5 inches	300	.076	22.80	.107	32.10
6 inches	130	.095	12.35	.116	15.08
7 inches	400	.095	38.00	.125	50.00
8 inches	275	.095	26.12	.142	39.05
9 inches	450	.114	51.30	.16	72.00
10 inches	450	.114	51.30	.178	80.10
11 inches	450	.123	55.35	.196	88.20
12 inches	400	.123	49.20	.214	85.60
13 inches	275	.165	45.37	.234	64.35
14 inches	400	.171	68.40	.285	114.00
16 inches	250	.190	47.50	.356	89.00
Ice creams:					
3½ inches	1,500	.016	24.00	.033	49.50
4 inches	1,000	.016	16.00	.033	33.00
Jugs:					
4s	25	.48	12.00	.828	20.70
6s	360	.42	151.20	.676	243.36
12s	625	.33	206.25	.534	333.75
24s	1,500	.28	420.00	.436	654.00
30s	700	.24	168.00	.409	286.30
36s	1,000	.24	240.00	.347	347.00

Table showing the actual output for 1 year of a six-oven pottery, etc.—Continued.

Articles.	Quantity.	English price for making.		American price for making.	
		Net.	Total.	Net.	Total.
Mugs:	*Dozens.*				
24s	300	$0.036	$10.80	$0.078	$23.40
30s	2,200	.029	63.80	.07	154.00
36s	400	.024	9.60	.061	24.40
Nappies:					
5 inches	200	.08	16.00	.108	21.60
6 inches	350	.08	28.00	.117	40.95
7 inches	1,200	.09	108.00	.134	160.80
8 inches	1,800	.09	162.00	.15	270.00
9 inches	400	.11	44.00	.167	66.80
10 inches	300	.12	36.00	.20	60.00
Plates:					
4 inches	500	.016	8.00	.041	20.50
5 inches	5,000	.018	90.00	.066	330.00
6 inches	10,000	.02	200.00	.074	740.00
7 inches	15,000	.025	375.00	.082	1,230.00
8 inches	10,000	.029	290.00	.091	910.00
Deep—					
6 inches	1,000	.02	20.00	.082	82.00
7 inches	8,000	.025	200.00	.091	728.00
8 inches	10,000	.029	290.00	.098	980.00
Festoons—					
5 inches	1,500	.019	28.50	.082	123.00
6 inches	5,000	.022	110.00	.091	455.00
7 inches	7,500	.028	210.00	.099	742.50
8 inches	7,500	.033	247.50	.107	802.50
Deep:					
5 inches	500	.019	9.50	.091	45.50
8 inches	3,000	.028	84.00	.107	321.00
Cake	1,000	.10	100.00	.205	205.00
Cup	500	.016	8.00	.033	16.50
Sauce boats	500	.266	133.00	.409	204.50
Saucers:					
Coffee	10,000	.018	180.00	.045	450.00
Festoon	3,000	.019	57.00	.052	156.00
Tea	22,000	.016	352.00	.039	858.00
Festoon	12,000	.017	204.00	.045	540.00
Fruit—					
3½ inches	3,000	.016	48.00	.033	99.00
4 inches	3,000	.016	48.00	.033	99.00
Festoon	5,000	.017	85.00	.039	195.00
Sugars:					
24s	450	.418	188.10	.623	280.35
30s	1,000	.38	380.00	.578	578.00
Teapots	1,000	.57	570.00	.97	970.00
Sauce dishes:					
Tureens	100	.627	62.70	.97	97.00
Stands	100	.209	20.90	.32	32.00
Ladles	100	.095	9.50	.24	24.00
Soup dishes:					
Tureens (9s)	125	1.596	199.50	2.67	333.75
Ladles	100	.171	17.10	.311	31.10
Stands	100	.418	41.80	.534	53.40
Vases	1,500	.209	313.50	.445	667.50
Basins (9s)	2,000	.18	360.00	.328	656.00
Chambers (9s)	1,500	.45	675.00	.845	1,267.50

Table showing the actual output for 1 year of a six-oven pottery, etc.—Continued.

Articles.	Quantity.	English price for making.		American price for making.	
		Net.	Total.	Net.	Total.
Ewers:	*Dozens.*				
6s	1,500	$0.627	$940.50	$0.89	$1,335.00
Mouth	600	.24	144.00	.409	245.40
Soaps	1,000	.418	418.00	.578	578.00
Slop jars	150	2.052	307.80	2.314	347.10
Total			12,985.42		26,916.71

The total cost of the several branches of labor entering into the cost of the above tabulated output is as follows in detail:

Description.	England.	United States.
Potters (wages)	$12,985.42	$26,916.71
Oven (pay)	3,312.00	11,476.00
Molds (wages)	1,071.00	2,450.00
Saggars (wages)	852.00	2,130.00
All other wages	5,746.87	13,294.53
Office and management	2,898.00	5,460.00
Total	26,865.29	61,727.24

The total cost of the materials entering into the above output is as follows:

Description.	England.	United States.
Materials entering into the body and glaze	$17,521	$21,357
Materials not entering into same	11,409	21,263
Total	28,930	42,620

The percentage of difference in the cost of the body, in the various materials, and in the proportions generally used figures out to be about 22 per cent., while in the matter of glaze the difference is 67 per cent.

The ratio of labor to materials was: English labor, $26,865.29; English materials, $28,930; American labor, $61,727.24; American materials, $42,628.

The above figures also show that the total cost of labor is 129 per cent. higher in America than in England, and that of materials is only 47 per cent higher, or that of labor and materials taken together is 87 per cent. higher.

Now, if we add the other elements of cost named above, we have the total cost of the actual product of a six-oven pottery in England and the United States.

Table showing total cost of the product of a 6-oven pottery in England and the United States.

Description.	England.	United States.
Labor	$26,865.29	$61,727.24
Materials	28,930.00	42,628.00
Interest	*4,855.00	†9,840.43
Taxes, including income tax	550.00	1,450.00
Gas and water	840.00	985.00
Total	62,040.29	116,630.67

*At 5 per cent. †At 6 per cent.

This shows a difference in favor of the English manufacturer of 88 per cent.

We might follow out on the same lines the comparative cost of an actual oven of ware, or the cost of a standard assorted crate of ware, or of a 125-piece or other dinner set; all of these will give substantially the same proportionate difference of cost.

It will be noticed by those interested in this matter that the results arrived at in this report differ greatly from those of previous reports. The reason is simply that I have gone into the cost element of every article and made an accurate comparison of the whole, and not only of a part, and that part (as hitherto compared) being those articles which are paid highest for in England and lowest for in the United States and on which the percentage of difference is the smallest.

PRINTED POTTERY.

In closing this report I will but refer to a department in the pottery business which is attracting, to a greater or less degree, all potters on both sides of the Atlantic, viz, "printing," or the decoration of earthenware by transfers to the ware of engravings or etchings from the copper or steel plates by means of specially prepared paper known as "printers' paper." Many of the old English manufacturers of white ware have made and are making extensive alterations in their plants so as to adapt their works for this class of cheap decoration.

Table showing the English and American count list.

Articles.	English count list.				American count list.	
	Size.	Long.	Medium.	Short.	Size.	Standard.
Plates	4 and 5 inches	36	36	36		36
Do	6 inches	36	30	24		30
Do	7 inches	30	24	24		18
Do	8 inches	24	20	18		18
Sugars		15	15	12		12
Teapots		15	15	12		12
Creams		18	18	15		18
Bakers	4 to 6 inches		18		3 to 5 inches	18
Do	7 to 12 inches		12		6 to 12 inches	12
Bowls	24s		24			18
Do	30s		30			18
Do	36s		36			18

Table showing the English and American count list—Continued.

Articles.	English count list.				American count list.	
	Size.	Long.	Medium.	Short.	Size.	Standard.
Butters:						
Covered			8			6
Individual			36			36
Casseroles			6			6
Cover dishes			6			6
Comports			12			6
Cups and saucers:						
Tea			36			36
Coffee			36			24
After-dinner			36			36
Dishes	4 to 12 inches		12		5 to 6 inches	18
Do	14 to 18 inches		6		7 to 12 inches	12
Do					12 to 18 inches	6
Ice creams and fruit saucers			36			36
Jugs	4s		4			8
Do	6s		6			8
Do	12s		12			8
Do	24s		24		24s	12
Do	30s		30		30s	18
Do	36s		36		36s	24
Mugs	24s		24		24s	12
Do	30s		30		30s	12
Do	36s		36		36s	12
Nappies	3 to 5 inches		15		3 to 5 inches	18
Pickles	5 to 10 inches		12		6 to 12 inches	12
Do			12			18
Salads			6			6
Sauce boats			12			18
Tureens, complete (4 pieces):						
Sauce			4			3
Soup			4			3
Egg cups			24			24
Bone dishes			15			24
Cake plates			12			12
Fish dishes			6			6
Ewers	9s		9			6
Basins	9s		9			6
Mouth ewers			24			12
Chambers, covered			12			4
Vases			12			12
Soaps, covered			6			6
Slop jars			1			2
Slop pails			1½			2
Cuspidors			2			3
Spittoons			6			6

In the United States the printers are paid on a standard count as given above, and the rate paid per dozen is arranged according to the class of work to be done and varies from 15 to 40 cents per dozen. In England the reverse is the case. The rate paid per dozen is a fixed quantity, viz, 11 cents; but the count varies according to the class of work. All work, however, comes under one of three scales or counts, as long, medium, or short.

W. BURGESS,

UNITED STATES CONSULATE, *Consul.*

Tunstall, August 23, 1891.

TRADE OF THE STRAITS SETTLEMENTS.

REPORT BY CONSUL WILDMAN, OF SINGAPORE.

In submitting a résumé of the officially published trade report of the Straits Settlements for the year 1890, it is well to point out certain inaccuracies that seem almost impossible to obviate. For example, as I have often pointed out before, the amount of export trade from the Straits Settlements to the United States is by no means represented by the figures stated. A large proportion of exports from here to London are designed for the United States, and should so be credited. It is almost useless, though, to point out these mistakes, as all other nations labor under them. The import from Switzerland, it might be noted, is credited as almost nothing, while in reality the importations from that country are important, Austria, France, and Germany getting the credit for them.

The year 1890 opened in the midst of a severe depression in the local money market, brought on by the mining speculation in the first half of the previous year, which caused great scarcity of money in the bazaar. Trade had been fairly brisk during 1889, and quotations for the produce of the archipelago stood reasonably high in the beginning of 1890. Cube gambier sold at $11.75; black pepper, $17.15; tapioca flake, $5.50; tin, $35.75; and opium, $518. Exchange on London was about 3*s.* 1*d*, and, notwithstanding the large number of business failures, chiefly confined to the Chinese community, hopes were not wanting that the year under review would show well in the record of the trade of the colony. These hopes have not been realized, the year that has just passed being marked by falling prices and financial difficulties. A continual drooping of prices in the London markets, followed by a heavy rise in exchange consequent on large purchases of silver by the United States, had a directly adverse bearing on the prices of produce of the Straits Settlements. The high rate of exchange ruling meant less money to the producer without any decrease in the cost of labor, and the sudden decline in exchange prevented many buyers from being able to remit on the basis of sales at high rates. At the close of the year, with exchange at 3*s.* 5*d.*, prices were not encouraging. Cube gambier had fallen to $8.50; black pepper, to $10.75; tapioca flake, to $4.45; tin, to $31; and opium, to $472. It may thus be briefly summed up that there was little benefit from high exchange. Large stocks were on hand, and the outlook was gloomy. By taking the highest and lowest quotations in each month in the years 1889 and 1890, an average not perfectly accurate but sufficient for the purpose in view will be obtained, and the result shows the average value in sterling of the dollars to be 3*s.* 1¾*d.* in 1889 and 3*s.* 5*d.* in 1890, a difference of something like 9 per cent. This is an important factor in a comparison of the trade of any two or more years and must be kept in view when calculating the quantities and values of the exports and imports.

The total value of imports into the colony amounted to $158,651,000 in 1890, against 156,199,000 in 1889, and the exports of 1890 amounted to $137,725,000, against $133,219,000 in 1889; but these increases are only apparent, and are wholly accounted for by the greater value of treasure, the returns of which are not reliable, owing to the face value of notes being included. There has been, in fact, a decline in the value of merchandise under the heads of both imports and exports.

Table showing the imports and exports in 1889 and 1890.

IMPORTS.

Description.	1890.			1889.		
	Singapore.	Penang.	Malacca.	Singapore.	Penang.	Malacca.
Merchandise:						
United Kingdom	$15,900,000	$4,000,000	.....	$15,500,000	$3,500,000	.....
British possessions	23,600,000	15,700,000	.....	26,300,000	13,400,000	.....
Foreign countries	53,200,000	18,400,000	$500,000	55,100,000	19,100,000	$600,000
Other settlements	6,700,000	1,900,000	1,600,000	5,600,000	2,000,000	1,500,000
Total merchandise	99,400,000	40,000,000	2,100,000	102,500,000	38,000,000	2,100,000
Treasure	13,200,000	3,900,000	100,000	8,300,000	5,200,000	200,000
Grand total	112,600,000	43,900,000	2,200,000	110,800,000	43,200,000	2,300,000

EXPORTS.

Merchandise:						
United Kingdom	18,200,000	6,500,000	.....	18,900,000	8,300,000	.....
British possessions	11,100,000	7,700,000	.....	9,300,000	5,500,000	.....
Foreign countries	47,600,000	16,000,000	300,000	50,600,000	17,000,000	400,000
Other settlements	2,100,000	5,200,000	1,700,000	1,700,000	5,200,000	2,000,000
Total merchandise	79,000,000	35,400,000	2,000,000	80,500,000	36,000,000	2,400,000
Treasure	15,100,000	6,000,000	200,000	8,000,000	5,900,000	300,000
Grand total	94,100,000	41,400,000	2,200,000	88,500,000	41,900,000	2,700,000

REVIEW OF THE TRADE.

It is thus seen that Singapore has a decreased value in the merchandise imported, while Penang boasts of a slight increase and Malacca remains stationary. This, however, owing to the high exchange ruling during the year, might not mean a decrease in bulk or a deterioration in the quality of goods. The export trade shows a falling off in merchandise in the case of each of the settlements. The countries which show large declines in trade with the Straits Settlements in imports are principally India, Hongkong, French Indo-China, and Netherlands India, and in exports the United Kingdom and Netherlands India. Increases are found in the import trade with Burmah, Japan, and Perak and in exports with British India, Hongkong, and Siam. The fluctuations in the case of European countries are so small as not to call for remark. The important increases of imported articles during the year are chiefly in cotton piece goods from the United Kingdom, rice from Burmah and Siam, spices from Japan, gutta-percha from Nether-

lands India, and black pepper from the West Malay Peninsula and Sumatra. Increased exports are, generally speaking, in the same class of goods, which is accounted for by taking into consideration that Singapore is really an agency for the conveyance of produce and manufactured goods to other places. The largest decrease in imported articles is in coal from the United Kingdom, gunnies and opium from British India, and rice from Perak and Siam (west coast).

From the various and extensive tables inserted in the report, we take a few of the most important for the years 1889 and 1890:

Cotton goods.—There were imported 4,675,000 pieces in 1889, against 7,117,000 in 1890, at an increased value for 1890 of $2,656,000. The reason given for this increase is that remitters took the opportunity of the high value of the dollar to buy larger quantities. Nearly five-sixths of the increase is accounted for by the United Kingdom. There is a large decrease in the import of yarn.

Treasure.—The enormous amount of specie brought in and sent out makes us dubious of the correctness of the table inserted, and Captain Crawford strengthens this view by informing us that, owing to an erroneous custom of including the value of bank notes in silver specie, these figures are not reliable; but he trusts this system of calculating has been put a stop to. The figures given for the last 2 years are: Imports—1889, $12,515,000; and for 1890, $16,015,000; exports—1889, $13,423,000; and for 1890, $20,415,000. It seems that no copper cents were imported direct from Borneo and Sarawak. The recent shipments of gold from Raub were declared as for transshipment, so they do not help to add to the gold bullion imported, which slightly exceeded $1,000,000 in value.

Opium.—Though there is a decrease in the quantity of opium brought in and sent out, a larger quantity than in any former year seems to have been consumed in the Straits Settlements, and a steadily progressing trade is observable with Hongkong and China; 14,448 chests of all kinds were brought in in 1890 and 11,906 were sent out. Patna opium is apparently gaining in favor year by year, but the trade is comparatively insignificant in quantity when placed beside the figures representing Benares opium.

Gums, etc.—This trade, which is so closely identified with the export of produce of the Straits Settlements, is satisfactory. An increase of nearly 7,500 piculs of all kinds marks the returns of 1890. The greatest increase falls under the head of gutta-percha.

Spices.—Black pepper shows a larger export than it has done for several years previously, and the same can be said of the other two kinds of pepper—white and long. In spite of the Acheen blockade, Penang imported from Sumatra 63,000 piculs more of black pepper than in 1889, and Singapore received from Johore 88,000 piculs more. Cinnamon, ginger, cardamoms, mace, and nutmegs have also increased exports.

Tin.—A decrease of 17,500 piculs is seen in the export of important articles of tin. From Salangore 19,300 piculs more than in 1889 were re-

ceived, but Malacca and the states on the west of the peninsula together sent 12,000 piculs less to Singapore. Perak sent 25,600 piculs less, and a decreased quantity of 3,200 piculs was also received from Sungie-Ujong. In 1890 537,200 piculs were exported from the colony, against 554,747 piculs in 1889.

Coal.—There is a falling off of nearly 43,000 tons in the import of coal. From the United Kingdom alone nearly 65,000 tons less were received. Japan coal would appear to be favorably thought of, there being received from there more than 22,000 tons above the quantity received in 1889. Australia sent much the same quantity in both years. About 300 tons more were received from Sarawak, and there was a slightly decreased import from Labuan. The following are the imports for 1890: United Kingdom, 198,-480 tons; Japan, 55,300 tons; Australia, 58,530 tons; Sarawak, 5,200 tons; Labuan, 340 tons; other places, 6,780 tons; total, 314,630 tons.

Gambier.—There is a larger export of this article by nearly 49,000 piculs. The total export in 1890 was 769,700 piculs.

Petroleum.—A keen competition between American and Russian petroleum has been going on for some years, and for the first time Russia has outstripped the United States; 12,000 cases more were received this year, the total import being 882,300. Of this, the United States sent 436,900 cases and Russia 444,900 cases.

Tapioca.—Flour, pearl, and flake tapioca give increased exports; the figures for the year 1890 are 199,200, 162,200, and 183,000 piculs, respectively.

Rice.—This article is by far the most important factor in our food supply; 2,250,000 piculs in excess of that received from the same place in 1889 came from British Burmah alone. In 1890 nearly 6,800,000 piculs were imported, of which 4,200,000 piculs were reëxported.

Coffee.—A large falling off in the export of this product is noted in the report. In 1889 73,000 piculs are shown, against 47,600 piculs in 1890. In the year 1889, however, there seems to have been an abnormally large export, and we are told that the 1890 output was above the average of the 3 preceding years.

Live stock.—From Siam nearly 24,000 bullocks were received, and about the same number of sheep from India, the total supply of both remaining much the same as in 1889. A slowly growing trade is noticeable with Australia.

Miscellaneous.—The value of the imports of silk piece goods is increasing, and with this increase France is chiefly concerned; 378,000 pieces were imported in 1890, being an increase of more than 100,000 pieces. A decreased value is seen in the import of woolen cloth. Of copra 100,000 piculs less were exported in 1890, the total being 300,500 piculs. A falling off in the quantity of rattans exported is registered; 359,000 piculs were exported in 1890, against 422,000 in 1889. The quantity exported of both flour and pearl sago was more than in 1889 by nearly 60,000 piculs in the

case of the former, and 53,000 piculs of flour sago and 154,000 piculs of pearl sago were exported. Nearly $1,000,000 were paid for the matches imported, of which article Hongkong supplied nearly half. More than $4,000,000 represent the value of all kinds of fish imported in 1890, the supply from Siam alone reaching a value of more than $1,250,000. The principal consumers are Java and Burmah, the operation of a salt tax in Burmah favoring the trade. The export of raw hides was less by 13,000 piculs, the figures being 54,000 piculs in 1889 and only 41,000 in 1890. Decreases are seen in the import of malt liquor and spirits, corrugated iron, ironware, and machinery, and increases in hardware, cutlery, and rod iron.

TRADE WITH THE UNITED STATES.

The imports from the United States amount to $1,594,207, a decrease of $240,239 as compared with the year 1889. The total amount of exports to the United was $8,415,565, a decrease of $629,895 from the year 1889.

Of the imports from the United States the only articles specified are petroleum ($795,108) and provisions ($5,953). Of the exports the following articles and values are specified:

Articles.	Amount.	Articles.	Amount.
Cloves	$57,307	Nutmegs	$186,987
Coffee	112,400	Pepper:	
Cubebs	19,910	Black	889,751
Dragons' blood	503	White	59,035
Gambier	1,034,020	Rattans	939,265
Gums:		Rubber, Borneo	132,900
Benjamin	4,257	Sago flour	68,768
Copal	201,000	Tapioca:	
Dammar	4,458	Flake	105,957
Gutta-percha	257,784	Flour	17,818
Hides	6,244	Pearl	204,227
Mace	64,142	Tin	3,179,758

ROUNSEVELLE WILDMAN,
Consul.

UNITED STATES CONSULATE,
Singapore, June 4, 1891.

SHEEP AND WOOL IN SYRIA.

REPORT BY CONSUL BISSINGER, OF BEIRUT.

PROVINCIAL DIVISIONS OF SYRIA.

The Beirut consular district is divided into five vilayets, or provinces, viz: (1) Adana, with the city of Adana as capital and Mersine as its seaport; (2) Aleppo, of which the city of the same name is the capital and Alexandretta the principal seaport; (3) Beirut, with Beirut city as capital of the vilayet and principal seaport; (4) Mount Lebanon; and (5) Syria

proper. Beirut city is also the port for Mount Lebanon and for the vilayet of Syria, of which latter Damascus is the capital, the ports of minor importance being Tripoli, Sidon, Acca, and Haifa, all in the Beirut vilayet. These provinces, with the exception of the vilayet of Adana, compose what is geographically designated as Syria.

The vilayet of Beirut, with Mount Lebanon, and notably the vilayet of Aleppo and adjacent countries and the vilayet of Syria are the most important wool-growing provinces within this consular district, as will be noticed from the following separate reports:

VILAYETS OF BEIRUT AND MOUNT LEBANON.

Generally speaking, sheep are kept and wool is grown more or less throughout the vilayet of Beirut and to some extent in Mount Lebanon. The mutessarrifiate (arrondissement) of Balka and the caïmakamiate (canton) of Merj-Ayoun, however, are the principal localities in the Beirut vilayet where wool-growing is prosecuted on a considerable scale, the other mutessarrifiates and caïmakamiates deserving no special mention as sheep-raising or wool-growing districts.

The area of the Beirut vilayet, according to statistics furnished by the engineer of the vilayet, is 4,971,000 hectares (12,283,341 acres), and that of Mount Lebanon, based upon information furnished by the Lebanon government, is 600,000 hectares (1,482,600 acres).

The number of sheep constituting a flock varies in every locality, but on an average it is composed of from 50 to 1,000 sheep. The total number of sheep in the Beirut vilayet and Mount Lebanon was estimated at 580,000 in 1890, exclusive of something like 200,000 or 300,000 head imported from the vilayets of Erzerum and Mosul for slaughter.

There are two varieties or breeds of sheep in this province, known as "Awassy" and "Moor," respectively. The former is distinguished from the latter by its long and straight wool, both white and black, and forms by far the largest proportion of the sheep raised; the other produces a reddish brown and shaggy wool. The Moor sheep is mainly kept for domestic purposes, notably in Mount Lebanon, and, when fattened, furnishes an excellent food during the winter months.

The shearing of sheep is performed by a very simple and primitive method with a pair of ordinary shears of long, narrow, and concave blades. The sheep is laid flat on the ground and is shorn first on one side and then on the other. The shearing season begins with the Greek feast of St. George (May 5) and lasts generally throughout the month. Wool is gathered by rolling up each fleece separately with its ends and small loose pieces inside of it.

The washing of wool is performed in a stream of running water. In several places holes are dug in this stream in which to clean the fleece. The ends of the fleece, generally full of dirt, are first cut off with a pair of ordinary shears, after which it is rolled up, thoroughly soaked in the water, and

then laid on the ground for about 20 minutes. In each one of the deepened places or holes in the stream men stand ready to wash the wool. One of these half unrolls the fleece and keeps it long enough in the water to become well soaked, moving it slightly to and fro; it is then taken out and squeezed with both hands. At this stage of the washing the fleece should be held against the chest of the washer with its ends downward. The object of keeping the fleece in this position while squeezing the water out of it is to prevent its being injured by tearing the wool and to keep the small, loose pieces rolled up inside from falling out. A second and a third man then go through the same process of washing and squeezing, and, after dipping the fleeces for the last time in the water, they are taken out without being again squeezed, placed upon the ground—one on top of another—to allow the water to drip off, and finally spread in the sun until completely dry. In order to wash wool thoroughly, the process just described should be repeated five, instead of three, times.

It is important in thus washing wool to place a board in the stream, reaching from the surface to the bottom of the water, to catch the particles of loose wool that may have become detached from the inside of the fleece while washing. For greater security a second obstruction, in the form of a bit of latticework, is generally put a short distance from this board, in order to intercept any stray pieces of wool which the board may have allowed to escape.

Considerable quantities of wool are consumed in this country for various domestic purposes, among others the filling of mattresses, pillows, divans, etc. It is also, to some extent, woven into fabrics and used in the manufacture of wearing apparel, more particularly for the inhabitants of Mount Lebanon. Felt and hosiery are also made of it in some localities.

Wool, throughout this vilayet, is invariably spun by hand on spindles of the crudest and most primitive form.

No machinery whatever is employed in the manufacture of woolen stuffs, the native weavers using the same old form of looms known throughout the East since patriarchal ages.

In the districts of Akkar, Hazzoor, Hasson, and Safita, in the mutessarrifiate of Tripoli (vilayet of Beirut), Syrian wool is made into carpets of ordinary texture and designs. The most conspicuous colors used are red and black, varied, occasionally, by crimson and black, with dark brown or black fringes.

The local designations of the various kinds of wool grown in the Beirut vilayet and Mount Lebanon are (1) "Noheimy," (2) "Balkawy," (3) "Zihlawy," and (4) "Ahmar." In quality they range according to the order in which they are here named. All of these varieties are known under the commercial name of "Ajamy," or Persian, when exported to England, and "Soory," or Syrian, elsewhere.

The average annual quantity of wool grown within the Beirut vilayet and Mount Lebanon is estimated at about 2,000,000 pounds. By far the largest

portion of this amount is exported to the United States, the balance being shipped to Europe (France and England) or used for local consumption.

The principal ports of export are Beirut and Tripoli.

The annual cost of keeping a sheep is variously estimated at from 58 to 89 cents, or an average of 73.5 cents.

The weight of each fleece varies from 3 to 7 pounds. The average price breeders receive per pound of wool is from 7 to 8 cents. Every 80 to 100 sheep are watched over by one shepherd, whose wages run from 18 to 25 cents daily, or an average of 21 cents.

In many districts sheep need no shelter in the vilayet of Beirut. In Mount Lebanon, however, they have to be housed at night during the short winter months. The loss of sheep and lambs by exposure or neglect is very small, but in times when diseases prevail the losses are severe.

No historical information having reference to the early history, the origin, derivation, or previous uses of sheep and wools can be ascertained, nor do there exist any publications, such as trade lists or commercial journals, in which commerce in wool is reported.

VILAYET OF SYRIA.*

Sheep are kept and wool is grown in every mutessarrifiate and caïmakamiate in this vilayet, but notably in the districts of Joulan, Jebel-Druze, Balka, Hauran, Homs, and Hamah.

The total area of the province of Syria is 4,856,000 hectares (11,999,176 acres).

The breed of sheep kept for wool-growing and breeding purposes in this vilayet is called "Ghanam-El-Abiad" or "Awassi" (white sheep); in some places it is known as "Ghanam-El-Shakra." Five per cent. of its wool is of a reddish and black color, the rest, as the name of the sheep indicates, being white. There is another variety of sheep known in Syria as "Moor," already spoken of in the Beirut report. It is imported from Erzerum for slaughter.

The number of sheep usually kept in flocks varies greatly; 100, however, is the average number generally watched over by one shepherd.

The exact total number of sheep in this vilayet it is not possible to ascertain. There is, however, a tax imposed on goats and sheep of 3½ piasters per head (15.4 cents), which produced the sum total of 5,257,134 piasters ($231,313.90) in the year 1890. It is estimated that two-thirds of this amount had been levied upon sheep; this would give a total of 1,001,359 sheep for the vilayet of Syria.

The shearing of sheep is by common shears and begins on May 5 of each year.

Wool is gathered in fleeces, each fleece being carefully rolled up separately. The weight of a fleece is from 3 to 7 pounds in a good season; in a poor year it does not exceed 4 pounds.

Wool is cleaned or washed in a stream of running water similar to the manner already described in the report for the vilayet of Beirut.

* From material partly furnished by United States Consular Agent Nasif Meshaka, of Damascus.

Wool does not enter to any very large extent into the domestic uses of the people in this vilayet. It is made into the "abas," elsewhere mentioned in these reports, and into common stockings. Damascus is the principal center of manufacture, except for rugs, which are made in the Baalbec district on ordinary hand looms.

The wool from which these articles are made comes from the "Moor" race of sheep.

Bed covering, *i. e.*, coarse blankets, wheat and charcoal sacks, floor coverings, and similar objects are also made out of the refuse wool of the "Moor" and "Awassi" sheep in the city of Zahleh, in Mount Lebanon.

Wool is spun on common, old-fashioned hand spindles and woven on ordinary hand looms of antiquated form. No machinery of any kind is used in Syria.

The different local designations of the wool grown in this province are the following: (1) The "Nouaïmi," or "Joulani," raised by a tribe inhabiting the Joulan district; (2) the "Belkawi," named after the locality known as Balka; (3) the "Jabali," grown in Jabel-Druze, in the mutessarrifiate of Hauran; and (4) the "Khaldi," raised by the tribe called Beni Khalid, inhabiting the mutessarrifiate of Hamah. The "Nouaïmi" is superior in quality to the rest of the wool grown in this vilayet.

The general commercial name under which all these various kinds of wool are known is "Soury," or Syrian, and the principal markets in which the same is warehoused, bought, sold, and prepared for export are the cities of Homs, Hamah, and Damascus, in this vilayet, the ports of export being Tripoli and Beirut, in the Beirut vilayet.

The greater part of all the wool exported to the United States is unwashed. When washed it is generally shipped to either Marseilles or Leghorn.

There are no trade lists or commercial journals in this vilayet in which commerce in wools is reported, nor is it possible to ascertain any facts having reference to the early history, the origin, derivation, or previous uses of sheep and wool in this country.

VILAYET OF ALEPPO.*

The vilayet of Aleppo is one of the provinces in Syria in which sheep are raised on a considerable scale.

The district of Aleppo, more properly speaking the mutessarrifiates of Orfa and Deir-el-Zor (the latter has lately been detached from the administration of the vilayet of Aleppo), are the localities where the raising of sheep and growing of wool acquire the greatest importance.

In the mutessarrifiate of Marash and in the caïmakamiates of Aintab, Antioch, Killis, Harem, Djesser-el-Shoghr, and their dependencies sheep are also kept; but their number is limited, the peasants of these districts being farmers rather than shepherds.

* Prepared from material furnished by United States Consular Agent F. Poche, of Aleppo.

The area of these vast tracts of land can only be determined geographically; they are uncultivated and inhabited only by Bedouins, *i. e.*, insubordinate Arabic nomadic tribes, who traverse their entire extent, a part of which only belongs to the vilayet of Aleppo. These nomads shift from place to place in search of pastures, wintering under the open sky in the warmest regions and seeking the localities offering the best pasturage for their flocks.

In the colder districts of Marash, Aintab, Antioch, Killis, Harem, Djesser-el-Shogr, Idlep, etc., sheep are kept in caves during the winter, and are fed on a mixture of hay and straw.

The number of sheep which usually compose a flock varies greatly. Each family forms, out of the sheep they possess, one or more flocks, watched over by members of the family. Eighty to 100 sheep are generally confided to one person; sometimes more. Sheep intended for slaughter march in flocks of from 1,000 to 2,000 and even 3,000, with one shepherd for every 100 sheep.

The total number of sheep which graze in the vilayet of Aleppo from spring till autumn, coming from Irak-Arabi and from the desert of Syria, is estimated by the provincial authorities at 2,500,000 in round numbers. The mortality in the year 1888–'89 has reduced this number to about 2,000,000, divided principally among the following tribes: Hadidi, Anezi, El-Weldeh, Beni-Saïd, Ghayar, Ewlad-Ali, Garamta, Aboo-Dibish, Aboo-Kemal, Aboo-Leil, El-Mawali, El-Saab, Aboo-Halahel, Beni-Haled, Beni-Zed, El-Omerat, El-Majadmeh, El-Shaher, El-Néim, Aboo-Hassan; El-Baghara, El-Meshahdeh, Beni-Taï, and others less important.

All the sheep raised by these tribes belong to the breed called "Awas," originally from Bagdad, which, in crossing with other races, have lost the original fineness, but gained in the length, of their wool. The best wools as regards fineness are those coming from sheep raised by the tribes called El-Tayawi, and El-Néim, who take greater care of their flocks and give them, 2 months after the shearing and several weeks apart, two or three sulphate baths, and also administer to them small doses of sulphur internally. By this treatment the sheep seem to enjoy immunities from the skin diseases which influence the beauty of the wool.

Next to the wool grown by these two tribes, which is limited in quantity, comes that of the Hadidi. The wool that the tribes Anezi grow, though a more brilliant white than that of the Hadidi, is of inferior fiber.

The shearing process is of the simplest order. The sheep is laid on the ground and is shorn with common shears. This takes place from the end of April to the end of May. Each fleece is rolled up separately and sold to the tradesmen from Aleppo, Orfa, and other localities of minor importance, who visit the encampments of the Arabs on the outskirts of the desert, where the bargains are made. The fleeces are not sold by weight, but by piece. Wool thus bought is transported to the various inland cities on camel back and there sold to merchants and export houses. It is these latter who occupy themselves with the cleaning and classing of the wool and with its packing in bales by hand presses. The maximum weight of a bale is 120 kilogrammes (264 pounds), of which two form a camel load.

The washing is also performed by the exporter. After removing the dirt each fleece is washed separately in a current of water. This washing is done more or less thoroughly, producing results varying from 50 to 60 per cent. After washing the fleeces are spread on the grass or on stony ground and exposed to the sun. When scarcely dry they are collected and brought to a warehouse, where they are classed, pressed, and packed.

The wool from the Aleppo vilayet is mostly exported, either washed or unwashed, to the United States and to Europe, a large portion going to Marseilles, whence it is again in part reëxported to the United States.

The wool from slaughtered sheep is spun by hand on common spindles and is made into "abas," a sort of coarse, thick, woolen cloak with a hood. The manufacture of these abas, which are used for local consumption, is of the most primitive kind, on the old hand looms, without the employment of any mechanical contrivances.

Wool is also, to some extent, made into carpets in this province.

The wools grown in the vilayet of Aleppo are divided into seven principal classes: (1) The wool called "Hadidi," which embraces not only the wool grown on sheep raised by this tribe, but comprises also all that produced by the different tribes above mentioned; (2) the wool called "Anezi;" (3) "Deir-El-Zor;" (4) "Fellahi." These four categories are sold in the city of Aleppo, and three of them are known in Marseilles under the name of "unwashed Persian wool," the fourth, or "Fellahi," being designated as "red Persian unwashed." When washed, they are known under the commercial name of "Aleppo washed wools." Classes 5, 6, and 7 are called, respectively, "Arabi," "Barazi," and "Milli." The latter is by far the coarsest of these seven categories, while "Arabi" is superior even to "Hadidi," and is known in the market of Marseilles under the denomination of "unwashed Orfa." All three grades are usually to be found warehoused in the city of Orfa, in this vilayet.

Besides the varieties enumerated, wools coming from the Mardin district are also sold in the markets of this province. Mardin is a city in the vilayet of Diarbekir, adjacent to the vilayet of Aleppo, a considerable distance northeast of the city of Aleppo, but not far from Orfa. They comprise three categories of wool, viz, the "Awas," the "Caracash," and the "Kurdes." The first of the three is generally washed on the sheep's back by forcing the sheep to pass once or oftener through a stream of water. By this system, followed by that of the washing of the fleece at Aleppo before marketing, a result of between 60 and 70 per cent. is obtained. The "Caracash" wool is also washed by the same process, only less thoroughly. The Kurdish wool arriving at Aleppo is sold and exported unwashed.

A very small percentage of the Aleppo wools, as already stated, is used in the making of "abas" and carpets and for the filling of household furniture, such as mattresses, etc.

The quantity of wool annually exported is estimated at about 2,200,000 kilogrammes (4,850,670 pounds) and divided among the following countries:

	Pounds.
United States	297,655
France	3,527,760
Turkey	540,188
Italy	330,728
England	154,339
Total	4,850,670

The wools exported to Turkey are generally sent to Smyrna and there mixed with the different varieties of that locality. They are reëxported to the United States.

There are no trade lists or commercial journals in this province in which commerce in wools is reported; nor is it possible to ascertain any facts having reference to the early history, the origin, derivation, or previous uses of sheep and wool in this country.

VILAYET OF ADANA (ASIA MINOR).*

Properly speaking most of the sheep kept in this province for wool-growing purposes come in flocks from the adjoining vilayet of Caramania for pasture and pass the winter mostly in the districts known as the mutes-sarrifiates of Selefkeh and Adana. The total area is roughly estimated at 40,000 square kilometres (9,884,000 acres).

The flocks usually number from 200 to 300 sheep, watched over by two shepherds, and the best estimate of the total number of sheep is about 250,000.

The method of shearing is of the most primitive order with the commonest shears. The fleece is rolled up without being cleaned or washed, packed in bales, and sent off in the same condition as when on the sheep's back. The cleanness of the wool from this province therefore depends entirely upon the amount of rain that falls upon the sheep prior to the shearing of the same.

The wool grown in this province is not made into fabrics or cloths, but is wholly exported, principally to Marseilles, whence it is reëxported to the United States; a small quantity is also shipped to Smyrna and Constantinople.

The commercial names of the Adana wool proper, produced by sheep kept on the plain of Yureli, are: (1) "Melemendji," 70 per cent. of which is white and 30 per cent. black; (2) "Karakayoli," 75 per cent. being black and 25 per cent. white; and (3) "Kosserauli," of which 90 per cent. is black and only 10 per cent. white.

In quality it ranges in the order given, and the name or breed of the sheep which produces it is called "Caramania."

The total quantity of wool produced in this district is estimated at 350,000 to 500,000 pounds, and the average weight of a fleece is from 6 to 8 pounds. To this 500,000 pounds must be added about 750,000 to 1,000,000 pounds of wool coming into this province from the adjacent vilayet of Caramania,

* Prepared from material furnished by Acting United States Consular Agent A. Kenn, of Mersine.

which is sold in Mersine for export under the commercial designations of "Cesarea" and "Koniah" wools. About 85 to 90 per cent. of these wools are of a yellowish or dirty white color, the rest being black.

A great mortality has reigned among the sheep this year, owing to the heavy rains prevailing throughout the winter.

Trade lists or commercial journals in which commerce in wool is reported do not exist in the vilayet of Adana.*

ERHARD BISSINGER,
Consul.

UNITED STATES CONSULATE,
Beirut, April 16, 1891.

TRADE OF SIAM.

REPORT BY CONSUL-GENERAL BOYD, OF BANGKOK.

I send inclosed a report† of trade for the year 1890. It shows an increase. Prospects encourage the belief that a large trade will be had for the year 1891.

The fact is, nothing is imported direct from the United States but kerosene oil. All, or nearly all, of the flour used here is from Hongkong and has the California brand. Corn meal, flour, bacon, and groceries, properly canned, ought to be supplied from the United States. Bacon retails at 45 cents, butter at 60 cents, and flour at 6 cents, per pound.

The farmers and business people are despondent. Rains that were expected in April failed, and no rain has fallen yet. Rice will be a failure, no matter how the season may be from now on. The weather is still hot and dry, and water famine is increasing.

S. H. BOYD,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Bangkok, July 10, 1891.

BANGKOK TRADE IN 1890.

[Inclosure in Consul-General Boyd's report.]

The official returns of the exports and imports of Siam, as recorded at the custom-house in Bangkok for the year 1890, have been handed to us by the courtesy of the customs officials. We are able to publish them nearly 3 months earlier than they appeared last year, and their value is considerably enhanced in consequence. In fact, the great improvement shown leads us to hope that in future years the returns will be available at the beginning almost of the new year. The custom-house officials are to be congratulated on the promptness which has been shown in preparing the returns for last year, and it is hoped that the advantage thus attained will stimulate them in getting the statement out as early as possible in future.

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* Samples of Syrian wool, forwarded to the Department in a subsequent report by Consul Bissinger, were turned over to the National Museum.

† From some trade journal; name not given by the consul-general.

The customs returns of 1890 are indicative of a considerable improvement of the Bangkok trade during the year, and also of an appreciable increase in the amount of several important articles imported. The different items in the tabulated statements show plainly the changes which are taking place in the requirements of the people, and a hint can be gained therefrom by merchants who make the supply of this market their especial study. The following export table will explain itself.

The figures stated below show that there has been a marked improvement in the amounts of imports and exports for the year 1890 as compared with those of 1889:

Description.	1889.	1890.	Difference.
Exports	$13,717,696	$19,257,728	$5,540,032
Imports	9,599,541	15,786,120	6,186,579
Excess of exports	4,118,155	3,471,608	.....

Therefore, the excess of the total export trade of 1890 over that of 1889 amounts to $5,540,032, while the excess of the total imports of 1890, compared with those of the preceding year, shows an increase of $6,186,579.

This is particularly encouraging. The marked improvement in the trade of the country is no doubt due to the increased attention which Siam is attracting in the outside world as a market, and also, in a great measure, to the fact of the coming railways, for which preparations are being made in the country. It also proves that there is an abundance of wealth in Siam, and that the Siamese, when disposed, can buy extensively in foreign markets.

The following table will give the relative value of the goods imported into Siam, which amount to $50,000 and upwards. Many small items of goods not given in the list, and comparatively novel in Siamese trade, are mentioned in the detailed returns; but a great majority of them are comprehended in that significant word "sundries," which includes many articles for which there is a growing demand in Siam.

Table showing imports.

Articles.	Amount.	Articles.	Amount.
White shirting	$674,038	Sundries	$797,576
Gray shirting	388,121	Opium	709,750
Colored piece goods	130,954	Coal	60,286
Long cloth	93,581	Gunny bags	570,479
Prints and chintz	88,664	Mattings	100,875
Mixed piece goods	496,943	Tea	84,799
Chowls	435,308	Paper	106,209
Twist:		Medicines	70,605
White	142,305	Umbrellas	57,888
Red	61,053	Salt garlic	98,348
Colored	147,203	Gold leaf	1,699,657
Hardware	185,678	Fruits	56,583
Earthenware	123,052	Matches	155,866
Crockery ware	76,404	Liquors	94,221
Brass and copper ware	116,133	Molasses	67,081
Glassware	85,965	Oil:	
Machinery	151,837	Kerosene	418,741
Jewelry	788,642	Lamp	185,501
Ship chandlery	151,752	Betel nuts	117,568
Silk:		Sugar	180,996
Piece goods	192,979	Cocoanuts	174,777
Crape	92,348	Corrugated iron	57,580
Chowls	67,594	Treasure	4,270 364

Table showing exports.

Articles.	Amount.	Articles.	Amount.
Rice	$14,969,210	Teel seed	$148,919
Broken rice	69,956	Teak:	
Bastard cardamoms	52,162	Plank	131,922
Plahaang	117,004	Timber	1,069,145
Plasalit	63,107	Rosewood	50,875
Dried mussels	155,637	Platoo fish	258,573
Buffalo hides	121,015	Salt fish	164,413
Buffalo horns	59,273	Tins	78,285
Gum benjamin	46,783	Bullocks	273,995
Birds' nests, edible	50,481	Sundries	261,050
Pepper	564,895	Treasure	57,319

The above figures and the steadily increasing importance of Siam as one of the markets of the world will give some slight information to merchants and others who are considering the advisability of turning their attention towards this country as a field for speculation.

TECHNICAL EDUCATION AT ST. ETIENNE.

REPORT BY CONSUL LOOMIS.

For the past 20 years the Government of France has devoted a vast deal of attention to the education of its people. National schools have been opened in almost every village, and the instruction given is of a very useful order. Besides the primary schools, there are "superior schools," where diplomas for "great merit" may be obtained. However, these last are only attended by pupils of either sex—belonging, for the most part, to the middle class—who intend to become teachers or governesses in public or private institutions, or by those who have no other purpose in view than that of being considered fairly well educated.

As the working classes, on the other hand, can not afford for their children the expenditure of time and money which a course at these higher schools involves, they are obliged to withdraw them when they have received the certificate of elementary education, which is generally given to children between the ages of 12 and 13 years.

It is for this poorer class of persons that towns of importance throughout France have established well-equipped schools, where various trades are taught gratuitously, both practically and theoretically. St. Etienne, being one of those important cities (130,000 inhabitants), possesses a model, well-organized, and successful technical school.

The technical institution of St. Etienne was built by the town in 1885 at a cost of 578,000 francs, or $111,583, for construction, furniture, machines, tools, and apparatus for the classes in chemistry and physics. The school has 300 students, and the trades taught are weaving, dyeing, sculpture, smiths, forging, founding, foundries, cabinet-making and gun-making.

The apprenticeship is 4 years in duration, and the instruction is free. At the end of 4 years a certificate of aptitude is given, which enables the lad

to obtain a situation in the line of industrial labor which he has chosen. The work at the school begins each day at 7 o'clock in the morning and is finished at 7 o'clock in the evening, with an interval of 1½ hours for dinner.

The school is composed of two buildings. The first, reserved for general education, comprises five large class rooms capable of containing sixty students each, five lecture rooms, one amphitheater for chemistry, one laboratory, one room for the elementary study of electricity, one large room for design, a library, and a museum.

The second building contains the different workshops, occupying 1,400 square metres of surface. The fitting up of these workshops is very complete, and cost at least 140,000 francs, and comprises vises, lathes; boring, planing, and mortising machines; forges, anvils, steam hammers, carpenters' benches, circular saws, weaving machines of every variety, and all the accessories of the dyeing industry, as well as important collections of chemical and physical apparatus. The whole building is lighted with electricity.

The lectures are of two kinds. The first are common to all students of the same year and embrace general subjects, while the second are exclusively technical and are special to each section.

In the first year the students pass through all the workshops to be initiated into the proper handling of the different tools, whether of iron or wood. After this period the boys are classed according to their tastes, desires, and aptitudes. They work at manual labor 3 hours daily during the second year, 4 hours in the third, and 5 in the fourth and last year for the first half and 7 in the last six months, in order to become accustomed to the burden of a day's work. During this period, also, special attention is paid to the teaching of the theory of the different trades, that is to say, the fitters are taught to trace and cut out cogwheels and the carpenters to design and execute a certain number of apparatus, such as stairs of different varieties, shutters, balconies, etc., on a reduced scale.

This work is of great importance, as it gives to the apprentices the habit of producing everything mathematically and geometrically.

The weavers, besides being taught thoroughly all the details of the loom and its working, receive special lessons in bookkeeping, legislation, commercial geography, and are taught one of the modern languages.

Very careful attention is paid to design. The apprentices at all the trades are obliged to follow the instruction given on this subject, which is rightly considered of the greatest importance in the school. Designs of various kinds are executed with great taste by the more advanced sections, and every year an exhibition of the work of the boys is held.

The results of this school have been most excellent, and I am informed that, as a rule, its graduates become self-sustaining members of society in a very few months.

FRANCIS B. LOOMIS,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
St. Etienne, June 11, 1891.

TRADE AND COMMERCE OF URUGUAY.

REPORT BY CONSUL HILL, OF MONTEVIDEO.

The volume of Uruguay's foreign exchanges since her entry, three decades ago, into an active participation in the world's trade may be seen in the appended table of imports and exports since the year 1862:

Year.	Imports.	Exports.	Total.
1862	$8,151,802	$8,804,442	$16,956,244
1864	8,381,467	6,334,706	14,718,873
1866	14,608,091	10,665,040	25,273,131
1867	17,657,918	12,077,795	29,735,713
1868	16,102,475	12,139,720	28,242,195
1869	16,830,678	13,930,027	30,760,705
1870	15,003,342	12,779,051	27,782,393
1871	14,864,247	13,334,224	28,198,471
1872	18,859,724	15,489,532	34,349,256
1873	21,075,446	16,301,772	37,377,218
1874	17,181,672	15,244,783	32,426,455
1875	12,431,408	12,693,610	25,125,018
1876	12,800,000	13,727,000	26,527,000
1877	15,045,846	15,899,405	30,945,251
1878	15,928,974	17,492,159	33,420,133
1879	15,949,903	16,645,961	32,595,864
1880	19,478,868	19,752,201	39,231,069
1881	17,918,884	20,229,512	38,148,396
1882	18,174,800	22,062,934	40,237,734
1883	20,322,311	25,221,664	45,543,975
1884	24,550,074	24,759,485	49,309,559
1885	25,275,476	25,253,036	50,528,512
1886	20,194,655	23,811,986	44,006,641
1887	24,615,944	18,671,996	43,287,940
1888	29,477,448	28,008,254	57,485,702
1889	36,823,863	25,954,107	62,777,970
1890	32,359,552	29,085,518	61,445,070

The values given above are official values, that is, valuations made by the Government for customs and other fiscal purposes, and are thought by the head of the statistical bureau, from which these figures are obtained, to be about 40 per cent. under the actual market price. The values of imports in all returns of trade are calculated on the prices in bond, and the value of exports on the local market prices less 10 per cent.

Unless otherwise specified, in this report Uruguayan dollars are meant. The dollar, or peso, of Uruguay is worth $1.0352 in American money.

One of my predecessors said in a report in 1886:

I have endeavored to make it as accurate as possible, but the great difficulty in doing so can readily be seen, when, according to the custom-house records, the exports to the United States from 1878 to 1885 amounted to $21,180,832, while the certified invoices on file in this consulate, in which the prices actually paid for the merchandise are declared, show that from Montevideo alone they were $33,448,448. Estimating that 75 per cent. of the business was done through this port, we should have $44,597,031, instead of $21,180,832, a difference of over 111 per cent.

Since 1885 the discrepancies between the values of exports to the United States as they appear in the custom-house returns and as they are declared at this consulate are just as striking. As an example, the exports of merchandise from all Uruguayan ports to the United States in 1889 amounted, according to these returns as published by the statistical office, to $1,441,310. The exports for the same year from this port alone, as declared by the shippers themselves and so made a matter of record, amounted to $2,252,628.62.

COMMERCE OF URUGUAY BY COUNTRIES.

The imports and exports of Uruguay from and to different foreign countries from 1878 to 1888 were as follows, in United States gold:

Table showing the exports and imports of Uruguay from 1878 to 1884, inclusive.

Countries.	Exports.		Imports.		Total.
	Value.	Per cent.	Value.	Per cent.	
1878.					
United States	$1,133,927	6.27	$1,016,748	6.17	$2,150,675
England	4,553,627	25.15	5,056,826	30.7	9,610,453
France	3,258,296	17.99	2,715,326	16.48	5,973,622
Brazil	4,394,194	24.28	2,024,079	12.28	6,418,273
Spain	39,442	0.22	1,416,299	8.59	1,455,741
Germany	76,951	0.42	837,410	5.08	914,361
Italy	296,610	1.63	897,873	5.45	1,194,483
Argentine Republic	592,720	3.28	354,651	2.16	947,371
Belgium	1,838,082	10.16	392,985	2.39	2,231,067
Cuba	1,133,919	6.27	306,716	1.87	1,440,635
Others	790,114	4.33	1,469,726	8.83	2,259,840
Total	18,107,882	100	16,488,639	100	34,596,521
1879.					
United States	2,029,675	11.78	1,165,070	7.06	3,194,745
England	3,612,107	20.96	5,073,813	30.73	8,685,920
France	3,641,011	21.13	2,760,496	16.72	6,401,507
Brazil	3,617,960	20.99	2,080,753	12.61	5,698,713
Spain	78,878	0.46	1,153,671	6.99	1,232,549
Germany	45,362	0.26	963,688	5.84	1,009,050
Italy	435,922	2.59	1,132,140	6.86	1,568,062
Argentine Republic	505,480	2.93	362,933	2.2	868,413
Belgium	1,485,084	8.61	266,940	1.62	1,752,024
Cuba	1,086,265	6.3	268,100	1.62	1,354,365
Others	694,155	3.99	1,283,734	7.75	1,977,889
Total	17,231,899	100	16,511,338	100	33,743,237
1880.					
United States	2,947,356	14.41	1,315,369	6.53	4,262,725
England	4,416,208	21.6	6,018,731	29.85	10,434,939
France	3,592,638	17.58	3,489,866	17.3	7,082,504
Brazil	4,080,149	19.96	2,516,221	12.47	6,596,370
Spain	108,242	0.52	1,618,183	8.07	1,726,425
Germany	81,572	0.39	1,142,096	5.67	1,223,668
Italy	322,989	1.57	1,577,003	7.82	1,899,992
Argentine Republic	961,235	4.7	546,107	2.71	1,507,342
Belgium	2,191,249	10.72	542,479	2.69	2,733,728
Cuba	930,967	4.55	216,244	1.07	1,147,211
Others	814,875	4	1,182,224	5.82	1,997,099
Total	20,447,480	100	20,164,523	100	40,612,003

Table showing the exports and imports of Uruguay, etc.—Continued.

Countries.	Exports.		Imports.		Total.
	Value.	Per cent.	Value.	Per cent.	
1881.					
United States	$4,003,630	19.12	$1,314,474	7.09	$5,318,104
England	3,304,316	15.78	5,570,467	30.04	8,874,783
France	4,213,106	20.12	3,009,270	16.23	7,222,376
Brazil	3,643,530	17.4	2,270,703	12.25	5,914,233
Spain	275,328	1.32	1,961,148	10.58	2,236,476
Germany	72,284	0.34	1,222,721	6.59	1,295,005
Italy	603,608	2.89	1,068,527	5.76	1,672,135
Argentine Republic	1,076,921	5.15	480,351	2.58	1,557,272
Belgium	1,941,756	9.28	469,736	2.54	2,411,492
Cuba	713,565	3.41	161,275	0.87	874,840
Others	1,093,548	5.19	1,020,956	5.47	2,114,504
Total	20,941,592	100	18,549,628	100	39,491,220
1882.					
United States	2,429,670	10.64	1,487,283	7.9	3,916,953
England	5,616,666	24.59	4,611,656	24.57	10,228,322
France	3,748,134	16.41	2,719,015	14.46	6,467,149
Brazil	2,981,246	13.01	2,282,352	12.14	5,263,598
Spain	163,796	0.72	2,071,741	11.01	2,235,537
Germany	350,495	1.54	1,454,137	7.72	1,804,632
Italy	365,004	1.6	1,287,346	6.84	1,652,350
Argentine Republic	1,019,143	4.47	672,774	3.57	1,691,917
Belgium	2,964,640	12.97	387,938	2.06	3,352,578
Cuba	1,137,696	4.98	142,841	0.76	1,280,537
Others	2,063,059	9.07	1,697,472	8.97	3,760,530
Total	22,839,549	100	18,814,554	100	41,654,103
1883.					
United States	2,264,150	8.69	1,214,945	5.77	5,474,095
England	5,001,323	19.14	5,709,222	27.13	10,710,545
France	4,379,478	16.77	3,614,150	17.17	7,993,628
Brazil	3,470,288	13.29	2,291,145	10.88	5,761,433
Spain	238,592	0.91	2,166,974	10.3	2,405,566
Germany	713,343	2.73	2,101,311	9.98	2,814,654
Italy	329,152	1.26	1,359,874	6.45	1,689,026
Argentine Republic	2,128,672	8.17	770,532	3.66	2,899,204
Belgium	5,042,404	19.31	616,827	2.94	5,659,231
Cuba	1,113,959	4.26	231,730	1.11	1,345,689
Others	1,428,105	5.47	960,946	4.61	2,389,051
Total	26,109,466	100	21,037,656	100	47,147,122
1884.					
United States	1,847,988	7.21	1,628,293	6.41	3,476,281
England	5,393,718	21.04	7,042,769	27.71	12,436,487
France	3,797,424	14.82	4,687,150	18.44	8,484,574
Brazil	4,018,726	15.68	2,515,684	9.89	6,534,410
Spain	475,002	1.85	2,351,185	9.25	2,826,187
Germany	863,517	3.37	2,430,841	9.56	3,294,358
Italy	363,396	1.42	1,559,316	6.14	1,922,712
Argentine Republic	1,924,520	7.51	657,971	2.58	2,582,491
Belgium	3,963,165	15.47	853,269	3.36	4,816,434
Cuba	992,158	3.83	165,276	0.65	1,157,434
Others	1,991,405	7.8	1,522,484	6.01	3,513,889
Total	25,631,019	100	25,414,238	100	51,045,257

Table showing the value of the imports from 1885 to 1889, inclusive.

Countries.	1885.	1886.	1887.	1888.	1889.
England	$7,381,859	$5,610,784	$6,710,961	$9,526,774	$10,471,610
France	4,199,555	3,410,384	4,114,045	4,531,988	5,515,915
Brazil	2,208,494	1,486,983	1,826,170	2,623,939	2,504,692
Spain	2,340,197	2,015,066	2,149,133	2,209,030	2,615,153
Italy	1,603,403	1,492,102	1,697,276	2,400,466	3,260,524
United States	2,045,107	1,246,819	1,701,964	1,584,908	3,411,601
Germany	2,277,931	2,098,809	2,839,296	3,042,014	3,431,830
Belgium	821,737	861,937	1,195,562	1,594,266	1,625,894
Cuba	199,788	193,008	216,458	189,954	186,373
Argentine Republic	733,141	517,562	442,897	963,347	1,450,057
Chile	140,390	197,712	97,379	119,819	878,273
Holland	64,560	133,084	64,316	27,985	105,988
Paraguay	149,044	174,065	151,398	130,953	84,436
Norway and Sweden	758	535	.....	.....	16
Denmark	1,133	2,282	.....	.....	523
Portugal	31,960	62,332	24,875	23,378	35,841
India, China, and Japan	10,988	12,107	7,982	20,994	1,815
Peru and Ecuador	775	.....	884	.....	.....
Switzerland	34,443	55,491	24,155	13,976	8,220
Colombia	.....	2,605	.....	.....	.....
Mauritius	7,128	7,430	13,639	.....	.....
Austria	1,577	9,418	406	320	.....
Canary Islands	2,061	1,739	2,573	1,495	8,349
Russia	.....	.....	.....	.....	206,655
Venezuela	729	.....	.....	.....	.....
Falkland Islands	100	.....	.....	.....	.....
Not specified	1,018,418	602,401	1,334,575	671,842	1,020,098
Total	25,275,476	20,194,655	24,615,944	29,477,448	36,823,863

Table showing the percentage of imports from 1885 to 1889, inclusive.

Countries.	1885.	1886.	1887.	1888.	1889.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
England	29.2	27.78	27.26	32.32	28.44
France	16.62	16.93	16.71	15.37	14.98
Brazil	8.74	7.36	7.42	8.96	6.8
Spain	9.26	9.47	8.73	7.49	7.1
Italy	6.34	7.38	6.89	8.14	8.86
United States	8.09	6.17	6.91	5.37	9.26
Germany	9.04	10.39	11.53	10.32	9.32
Belgium	3.25	4.26	4.86	5.41	4.42
Cuba	0.79	0.95	0.88	0.64	0.51
Argentine Republic	2.9	2.56	1.8	2.58	3.93
Chile	0.55	0.97	0.39	0.4	2.38
Holland	0.25	0.65	0.26	0.09	0.29
Paraguay	0.59	0.86	0.61	0.44	0.23
Denmark	0.01	0.01	.....	.....	.....
Portugal	0.12	0.38	0.1	0.08	0.09
India, China, and Japan	0.04	0.06	0.03	0.07	0.01
Peru and Ecuador	.....	.....	0.03	.....	.....
Switzerland	0.15	0.27	0.1	0.04	0.02
Colombia	.....	0.01	.....	.....	.....
Mauritius	0.02	0.03	0.05	.....	.....
Austria	0.01	0.04	0.01	.....	.....
Canary Islands	0.01	.....	0.01	.....	0.03
Russia	.....	.....	.....	.....	0.56
Not specified	4.02	3.47	5.42	2.28	2.77
Total	100	100	100	100	100

Table showing the value of the exports of Uruguay from 1885 to 1889, inclusive.

Countries.	1885.	1886.	1887.	1888.	1889.
England	$4,885,456	$4,998,765	$4,125,320	$5,988,208	$3,551,623
France	3,480,220	2,597,744	2,476,561	4,557,908	5,223,743
Brazil	3,299,647	4,481,240	2,563,934	5,432,002	3,295,485
Belgium	3,764,006	3,791,032	3,354,286	3,429,743	4,110,773
United States	4,370,591	2,719,085	1,522,854	2,326,999	1,441,310
Cuba	278,482	370,860	957,197	623,100	249,917
Spain	504,288	251,316	152,928	230,357	366,746
Italy	609,055	469,714	317,041	369,081	381,823
Germany	365,327	366,467	322,329	1,242,688	1,299,731
Argentine Republic	1,440,659	1,156,739	1,122,030	2,056,848	2,289,552
Chile	56,131	29,455	142,861	387,293	429,310
Paraguay	5,470	5,469	5,455	1,673	7,381
Antilles, Mauritius, and Réunion	22,283	20,876	14,965	29,360	7,198
India, China, and Japan	4,940	100	378	.....	.....
Peru	2,134	7,525	6,980	11,785	.....
Portugal	135,103	153,337	147,987	291,172	200,789
Falkland Islands	2,250	661	92	16,596	1,936
Cape of Good Hope	17,146	11,604	.....	.....	.....
Canary Islands	.....	.....	.....	1,101	.....
Venezuela	13,066	194	.....	.....	.....
Barbados	.....	.....	5,861	800	1,330
Holland	1,807	.....	.....	.....	.....
Not specified	1,994,976	2,389,903	1,432,937	1,911,540	3,095,460
Total	25,253,036	23,811,986	18,671,996	28,008,254	25,954,107

Table showing the percentage of exports from 1885 to 1889, inclusive.

Countries.	1885.	1886.	1887.	1888.	1889.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
England	19.34	20.96	22.09	18.17	13.69
France	13.74	10.91	13.29	16.27	20.13
Brazil	13.16	18.82	13.76	19.39	12.69
Belgium	14.9	15.92	17.96	12.25	15.84
United States	17.3	11.42	8.16	8.31	5.55
Cuba	1.1	1.56	5.12	2.22	0.96
Spain	1.99	1.06	0.82	0.82	1.41
Italy	2.41	1.97	1.69	1.32	1.47
Germany	1.44	1.54	1.72	4.44	5.01
Argentine Republic	5.7	4.84	6	7.34	8.82
Chile	0.22	0.12	0.76	1.39	1.66
Paraguay	0.03	0.02	0.03	.....	0.03
Antilles, Mauritius, and Réunion	0.08	0.09	0.08	0.11	0.02
India, China, and Japan	0.03	.....	.....	.....	.....
Peru	.....	0.03	0.03	0.04	.....
Portugal	0.53	0.65	0.79	1.04	0.77
Falkland Islands	0.02	0.01	.....	0.06	0.01
Cape of Good Hope	0.06	0.05	.....	.....	.....
Venezuela	0.05	.....	.....	.....	.....
Holland	0.01	.....	.....	.....	.....
Barbados	.....	.....	0.03	.....	0.01
Not specified	7.89	10.03	7.67	6.83	11.93
Total	100	100	100	100	100

IMPORTS AND EXPORTS BY CUSTOM-HOUSES.

Table showing the imports and exports by custom-houses from 1885 to 1889.

Custom-houses.	1885.		1886.		1887.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
Montevideo	$23,644,944	$16,692,948	$18,903,247	$15,108,025	$23,322,321	$11,822,817
Paysandu	421,779	3,234,168	285,881	3,420,331	298,881	2,478,444
Independencia	171,583	3,190,592	233,238	2,907,644	197,794	2,261,633
Salto	478,642	773,800	437,533	908,798	440,693	557,125
Cerro Largo	274,075	469,202	138,027	507,208	106,500	516,530
Colonia	150,132	455,054	91,691	518,794	130,507	568,264
Mercedes	86,464	326,693	56,341	288,502	79,074	239,286
Rivera	15,226	121,021	11,827	75,865	14,567	186,353
Chuy	18,279	38,240	.....	.....	.....	.....
La Paloma	13,932	21,318	24,764	76,819	22,803	21,554
Maldonado	420	.....	12,106	.....	2,804	.....
Santa Rosa	.....	.....	.....	.....	.....	19,990
Total	25,275,476	25,253,036	20,194,655	23,811,986	24,615,944	18,671,996

Custom-houses.	1888.		1889.	
	Imports.	Exports.	Imports.	Exports.
Montevideo	$26,196,344	$19,188,427	$33,476,433	$17,415,686
Paysandu	1,691,274	3,212,365	1,085,090	1,805,529
Independencia	156,083	2,676,821	240,547	2,561,842
Salto	312,772	612,987	539,853	1,397,446
Cerro Largo	98,315	607,118	113,156	304,214
Colonia	191,247	907,163	265,703	1,525,097
Mercedes	64,417	526,872	100,950	680,578
Rivera	12,135	216,453	12,393	124,052
Chuy	.....	.....	.....	.....
La Paloma	18,340	24,588	55,739	38,275
Maldonado	8,666	.....	3,227	22,173
Santa Rosa	727,855	35,460	960,772	79,215
Total	29,477,448	28,008,254	36,823,863	25,954,107

From the above it will be seen that Montevideo has been, during the last 5 years, a distributing point for about 90 per cent. of the goods that Uruguay buys from abroad, while the exports shipped from here amount to about 66⅔ per cent. of the exports of the whole Republic, so far as they appear in custom-house returns.

REVIEW OF URUGUAYAN EXPORTS.

The following excerpt from the River Plate Times is a fair review of Uruguayan export trade up to and including the year 1888:

Our exports have been conveniently classified by the energetic compilers of the Statistical Annual (Anuario Estadistico) under the following heads: Live stock, cattle and saladero products, rural products, other products and articles for the provision of ships. A considerable increase has taken place in all of these branches.

In live stock the export, which in 1886 amounted to 150,787 head of animals, valued at $656,246, is represented in 1888 by animals worth $853,640. This export shows a notable

increase, especially in the number and value of the cattle, the 40,264 head exported in 1886 being estimated at $461,449, or $11.46 per head, while the 57,575 head in 1888 are estimated at $784,039, or $13.62 per head.

Of the cattle and saladero products exported, the general increase from $16,000,000 in 1887 to $24,000,000 in 1888 has been principally due to jerked beef, cattle fat, and wool.

The export of jerked beef in 1887 only reached the total of $2,857,552, which, at $1 per 10 kilogrammes, means some 28,000,000 kilogrammes; but in 1888 this export reached the value of $4,950,553, or over 49,000,000 kilogrammes.

The amount of cattle fat exported in 1887 was worth $1,237,091 only, but in 1888 this export stood at $2,287,465.

In wool the 26,208,223 kilogrammes exported in 1887 represented $4,998,187, but in 1889 the 38,120,953 kilogrammes exported were valued at $7,587,924.

Among the rural products the increase has been most notable, these exports being represented by $976,041 in 1886, by only $712,374 in 1887, and by $1,722,629 in 1888.

An examination of these several products in detail shows a result most favorable to the future of the great agricultural movement which is now going forward in the country.

A great and encouraging increase is noticeable in the export of flour, maize, and wheat, while some other items, such as the export of biscuit, linseed cake, and mani cake, show the prosperous development of new trade. The export of flour, maize, and wheat has shown the following development:

Articles.	1886.		1887.		1888.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Kilos.		*Kilos.*		*Kilos.*	
Flour	11,942,868	$670,514	8,671,301	$489,813	15,764,826	$883,392
Maize	3,559,562	39,091	1,834,491	20,517	18,617,025	211,930
Wheat	3,459,673	123,583	2,849,208	120,247	10,147,553	415,570

From these figures we see that, comparing 1888 with 1887, the value of our exportation of flour has almost doubled in 1888, while that of maize has increased tenfold and that of wheat fourfold. Taking these three important items of our agricultural products together, we find that in 1887 we exported 13,355,000 kilogrammes, valued at $630,577, while in 1888 this exportation had risen to 44,529,404 kilogrammes, or $1,510,892—an enormous increase, which should be very encouraging to the promoters of agriculture in this country.

Among the other rural products the increase in the export of which has gone to make up the general augmented total are alfalfa, hay, and fruit. Alfalfa, in 1886, was represented by 387,090 kilogrammes, in 1887 by 117,760 kilogrammes, and in 1888 by 1,357,460 kilogrammes, an increase in value of $22,000 in the latter year; fresh fruit, in 1887, was exported only to the trifling value of $291, but in 1888 the export in this product was valued at $55,017; hay was exported in 1887 to the value of $3,521 and in 1888 to $16,768. The export of biscuit, linseed cake, and mani cake, to which we have referred as almost new articles of exportation among us, was represented in 1888 as follows: Biscuit, $17,169; linseed cake, $14,665; and mani cake, $10,446—items the export of which together was represented in 1886 by $5,537 only.

Among the sundry products exported some of the most important items are paving stone, sand, common stone, and curb stone. In all these materials increased exportation is noticeable, as well as in limestone and agate.

The export of paving stones has increased in the following manner:

Years.	Number.	Years.	Number.
1883	2,274,000	1887	5,058,000
1884	3,469,000	1888	11,082,000
1885	961,000	Total	24,804,000
1886	1,960,000		

This is equivalent to an average of 4,134,000 a year. The exportation of paving stones in 1888, which is double that of 1887, is therefore almost three times greater than the average.

In considering the great development of the important industries connected with the export of stone, we must also add to the above the exportation of rough stone, which in 1888 reached 424,889 tons, against 252,787 tons in the previous year.

The principal quarries at present worked are those of Colonia, San José, Canelones, and Montevideo; but large deposits of quartz, graphite, marble, agate, and other stone are to be found in the eastern departments in such abundance that it is surprising that so little effort has yet been made to work these regions so naturally rich in stone.

The country which is the chief, if not the only, consumer of this export is the Argentine Republic, which consumes yearly an average of 4,000,000 to 5,000,000 paving stones, as we have shown above.

In the quarries of Colonia, San José, and Montevideo there are at least 30,000 or 40,000 workmen employed in the stone industry.

In sand we have exported 155,149 tons in 1888, against 79,939 tons in the previous year; in lime, 4,014 tons, against 720 tons in 1886; and in limestone, 2,851 tons, against 1,599 tons in 1886 and about the same amount in 1887. The export of curb stone shows an increase of 30,066 metres.

In the export of agate a gradual increase is noticeable. In 1884 we exported 19,012 kilogrammes and in 1888 98,520 kilogrammes, the average of exportation in the past 6 years being 69,235 kilogrammes. These figures show considerable activity in this industry, which, however, we understand, is confined to very few hands. The "Oriental" agate is an agate of very superior quality, containing the most varied and richest shades known. It is produced almost exclusively in the department of Salto and is chiefly exported to Germany.

COMPARATIVE STATISTICS.

The imports and exports of each custom-house for the years 1888 and 1889 were as follows:

Custom-houses.	Imports.		Exports.	
	1888.	1889.	1888.	1889.
Montevideo	$26,196,344	$33,476,433	$19,188,427	$17,415,686
Paysandu	1,691,274	1,085,090	3,212,365	1,805,529
Independencia	156,083	240,547	2,676,821	2,561,842
Salto	312,772	539,852	612,987	1,397,446
Cerro Largo	98,315	113,156	607,118	304,213
Mercedes	64,417	100,950	526,872	680,578
Colonia	191,247	265,703	907,163	1,525,097
Rivera	12,135	12,393	216,453	124,052
La Paloma	18,340	55,739	24,588	38,257
Santa Rosa	727,855	930,773	35,460	79,233
Maldonado	8,666	3,227	.....	22,173
Total	29,477,448	36,823,863	28,008,254	25,954,107

The following table shows in what proportions the various other mercantile nations participated in the foreign trade of Uruguay during the years 1888 and 1889:

Countries.	Imports.		Exports.	
	1888.	1889.	1888.	1889.
England	$9,526,774	$10,471,610	$5,088,208	$3,551,623
France	4,531,988	5,515,915	4,557,908	5,223,743
Germany	3,042,024	3,431,830	1,242,688	1,299,731
United States	1,584,908	3,411,601	2,326,999	1,441,310
Italy	2,400,466	3,260,524	369,081	381,823
Spain	2,209,030	2,615,153	230,357	366,746
Brazil	2,623,939	2,504,692	5,432,002	3,295,485
Belgium	1,594,266	1,625,894	3,429,743	4,110,773
Argentine Republic	763,347	1,450,057	2,056,848	2,289,552
Chile	119,819	878,273	387,293	429,310
Russia	.....	206,655	.....	.....
Cuba	189,954	186,373	623,100	249,917
Holland	27,985	105,988	.....	.....
Paraguay	130,953	84,436	1,673	7,381
Portugal	23,378	35,841	291,172	200,789
Canary Islands	1,495	8,349	1,101	.....
Switzerland	13,976	8,220	.....	.....
India, China, and Japan	20,994	1,815	.....	.....
Denmark	.....	523	.....	.....
Norway and Sweden	.....	16	.....	.....
Antilles, Mauritius, and Réunion	.....	.....	29,360	7,198
Falkland Islands	.....	.....	16,596	1,936
Barbados	.....	.....	800	1,330
Peru	.....	.....	11,785	.....
Countries not specified	671,842	1,020,098	1,911,540	3,095,460
Total	29,477,448	36,823,863	28,008,254	25,954,107

Looking first at the imports, a glance discloses the preëminence of Great Britain as a source of supply. In 1888 she furnished over 32 per cent. of Uruguay's imports; in 1889, about 28 per cent. The statement in Whitaker's Almanac (edition of 1890) that, "judged proportionately in regard to population, Uruguay stands at the head of the list as our (England's) best foreign customer," is justified by the trade returns for the years under review. In 1888 France was credited with 15.3 per cent. of the imports; in 1889, about 13 per cent. Germany comes third on the list in 1889 with a percentage of 9.3, against 10.3 per cent. in 1888. The United States, which furnished 5.3 per cent. in 1888, is a good fourth in 1889 with 9.2 per cent., the increase being from $1,584,908 to $3,411,601. Spain, Italy, and Belgium about hold their own. Brazil shows a falling off in about the same proportion as the Argentine Republic's increase. The other countries—including Norway and Sweden, which press England closely in the carrying trade by sail—are distanced in the race.

In the matter of exports, France takes the place in 1889 as first on the list that England held in 1888. In 1888 France bought about 16 per cent. of Uruguay's surplus products; in 1889, 20 per cent. In 1888 England took

about 18 per cent., leading the list. In 1889 she fell to third place, taking only about 13 per cent. of Uruguayan exports; Belgium, which took about 12 per cent. in 1888, rising to 15 per cent. and taking second place. The Argentine Republic is fourth in 1889 with about 9 per cent., followed by the United States, which is accredited with about 5½ per cent. The proportions of Germany, Chile, and Italy are not deserving of special mention.

The trade with the United States shows a gratifying increase in imports, their volume nearly doubling, remaining about stationary so far as exports are concerned. Whether this was a sudden spurt, due to temporary causes, or whether we really gained a better foothold, can not at this writing be determined with certainty. However that may be, if these figures show one thing more than another, it is this: the fallacy of the dictum that the South American countries do not buy of us because we do not buy of them. So far as Uruguay is concerned, the statistics for many years past do not show any intimate connection between the amount that any single nation has bought of, and the amount which that nation has sold to, Uruguay. The trade with England, a country that has sold to Uruguay in a far greater proportion than she has bought of her, furnishes a most conspicuous illustration.

Comparing the returns of trade for 1889 with those of 1888, we find that the imports to Uruguay have increased from the following countries:

Countries.	Amount.	Countries.	Amount.
England	$944,836	Belgium	$31,628
France	983,927	Argentine Republic	687,710
Germany	389,816	Chile	758,454
United States	1,826,923	Russia	206,655
Italy	860,058	Holland	78,003
Spain	406,123	Portugal	12,463

They have diminished from Brazil, $119,247; Cuba, $3,581; Paraguay, $46,517.

The exports of Uruguay for 1889 have increased over those of the previous year to the following countries:

Countries.	Amount.	Countries.	Amount.
France	$665,835	Belgium	$681,030
Germany	57,043	Argentine Republic	232,704
Italy	12,742	Chile	42,017
Spain	136,389	Paraguay	5,708

They have decreased from the following countries:

Countries.	Amount.	Countries.	Amount.
England	$1,536,585	Cuba	$373,183
Brazil	2,136,517	Portugal	90,383
United States	885,689		

DUTIABLE IMPORTS AND EXPORTS.

Out of a total importation of $36,823,863 in 1889, $31,301,249 worth of merchandise was subjected to duty, $5,522,614 being entered duty free. The exports for the same year, which amounted to $25,954,107, were also slightly taxed, $618,925 being subjected to duty. The subjoined statement may be consulted for details.

Table showing the dutiable and free imports and exports of Uruguay in 1889.

Countries.	Imports.			Exports.		
	Dutiable.	Free.	Total.	Dutiable.	Free.	Total.
England	$8,166,491	$2,305,119	$10,471,610	$5,801	$3,545,822	$3,551,623
France	5,356,100	159,815	5,515,915	180	5,223,563	5,223,743
Germany	3,015,099	416,731	3,431,830	100	1,299,631	1,299,731
United States	3,054,791	356,810	3,411,601	4,939	1,436,371	1,441,310
Italy	3,217,205	43,319	3,260,524	650	381,173	381,823
Spain	2,566,867	48,286	2,615,153	215	366,531	366,746
Brazil	1,552,852	951,840	2,504,692	756	3,294,729	3,295,485
Belgium	1,287,493	338,401	1,625,894	.....	4,110,773	4,110,773
Argentine Republic	952,068	497,989	1,450,057	544,078	1,745,474	2,289,552
Chile	873,144	5,129	878,273	30,078	399,232	429,310
Russia	206,655	.....	206,655	.....	.....	.....
Cuba	186,128	245	186,373	.....	249,917	249,917
Holland	86,688	19,300	105,988	.....	.....	.....
Paraguay	76,398	8,038	84,436	.....	7,381	7,381
Portugal	35,661	180	35,841	.....	200,789	200,789
Canary Islands	8,349	.....	8,349	.....	.....	.....
Switzerland	8,220	.....	8,220	.....	.....	.....
India, China, and Japan	1,815	.....	1,815	.....	.....	.....
Denmark	523	.....	523	.....	.....	.....
Norway and Sweden	16	.....	16	.....	.....	.....
Mauritius	.....	.....	.....	.....	6,382	6,382
Falkland Islands	.....	.....	.....	.....	1,936	1,936
Barbados	.....	.....	.....	1,330	.....	1,330
Antilles	.....	.....	.....	.....	816	816
Not specified	648,686	371,412	1,020,098	30,568	3,064,892	3,095,460
Total	31,301,249	5,522,614	36,823,863	618,695	25,335,412	25,954,107

INCREASED IMPORTS.

The year 1889 shows an increase of imports over the preceding year of $7,346,415 and a decrease of exports of $2,054,147, the increase in the total foreign commerce being $5,292,268. The remarkable increase in imports is explained by the "great development" of the country, the advance in the standard of living among all classes, the enlarged demand for materials used in building and in extending and repairing the telegraph, tramway, and railway lines of the country. All these considerations, except the first named, seem to me to be valid. The credit of the country in European marts has been too good, and overtrading has resulted. The willingness of the people to buy largely, especially in lines of luxuries, is only equaled by the eagerness of the European business men to sell.

ARGENTINE AND URUGUAYAN BOOMS.

The fact of the "great development," upon which the chief of the statistical office here lays stress, is open to question. Though there have been fitful fluctuations from year to year, the exports as given above have not increased to any extent since 1883. On the other hand, the exports of the Argentine Republic, a country where, in addition to a vast amount of fanfaronade, there has yet been a very substantial development of the real resources of the nation, have risen steadily since 1883, as follows:

Year.	Amount.	Year.	Amount.
1883	$60,207,976	1886	$69,834,841
1884	68,029,836	1887	84,421,820
1885	83,879,100	1888	100,111,903

Whatever of increase there has been in production has doubtless been matched by a corresponding increase in domestic consumption, due to the multiplication of the wants of the people and their increased number by births and immigration. It is certainly a matter of surprise that the alleged development has been reflected so weakly or not at all in the exports during the period named.

The decrease noted in the exportation of 1889, compared with 1888, arises from the heavy rains that fell in that year, causing the almost total loss of the harvests and placing a large portion of the "camp" land in such a state that much of the live stock was not in a condition fit for slaughter. In the one item of wheat the shrinkage is well shown. In 1888, 10,147,553 kilogrammes were exported; in 1889 this fell to 1,932,277 kilogrammes. The export of jerked beef amounted, in 1888, to 49,505,534 kilogrammes; in 1889 it fell to 38,077,472 kilogrammes. The entire list of exports shows a falling off approaching more or less closely to these proportions.

In 1888 the country's foreign exchanges seem to have reached that happy state of equilibrium toward which economists say trade always tends, in which imports and exports balance each other. There was a large increase in imports, as was to be expected and desired in a young, growing country, and a still larger and very gratifying increase in the export trade.

Undoubtedly 1888 was a very prosperous year for Uruguay. The number of immigrants had risen from the miserable figure of 430 in 1886 to 15,872. Trade showed a healthy growth, with no abnormal symptoms, while the Government enjoyed respectful consideration both at home and abroad.

At that time the Argentine Republic, between which and the great Empire of Brazil Uruguay lies, like Belgium in northern Europe, was in the midst of a career of speculation and inflation, which, on account of its magnitude, was calling to itself the attention of the world. Uruguay, whose capital contained in 1857, according to Commander Page, U. S. Navy, 120,000 souls, against 40,000 in Buenos Ayres, was reckoned, in these days of cedulas and irredeemable paper issues, a "slow coach." The opening

up of the great water ways which form the La Plata system to the free navigation of the world had effected a wonderful transformation in the Argentine Republic. Within these 30 years the Argentine "Confederation" had been erased from the map of South America, and Buenos Ayres, no longer the head of a petty province whose energies were spent in warring with her neighbors or in suppressing seditious risings of her own Gaucho-bred sons, now found herself the capital of a large federal Republic of over 800,000 square miles. She had grown to be a city of 500,000 inhabitants, and the splendor of her public displays was almost barbaric in extravagance. Among the "financiers" brought to the surface by this great ferment was Mr. Edward Casey, a man who in an incredibly short time had risen from a humble sheep-farmer to be the possessor of a fortune currently estimated at a minimum of $20,000,000. In 1889 this ambitious financier resolved to transfer his activities to this side of the River Plate and proceeded to "boom" Montevideo in the manner which experience had approved in the neighboring capital of Buenos Ayres. His plan seems to have been to get exclusive control of a large part of the industrial enterprises of the city (and the country, for, like the old Greek cities, the city is the country)—the tramways, certain lines of railway, etc.—and, after consolidating them under a single management and inflating land values by a well-distributed plan of sales, to unload, upon a fictitious valuation, the syndicate's holdings on the London public. But Uruguay had been reached too late. The collapse of Argentine credit in foreign markets carried in its train all speculative ventures in Uruguay, which is in the financial world a mere appendage of her more powerful neighbor. The stock of the company (Obras Públicas), which was quoted at 176 in 1889, fell to 2¾ in the latter part of 1890, and at a directors' meeting in the last-named year the capitalization of the company was cut down at one swoop from $20,000,000 to $10,000,000. To the disarrangement of values and the overtrading caused by this short, sharp boom in 1889, more than to any other thing, is due the financial troubles and the state of depression in which the country is involved to-day.

URUGUAYAN IMPORTS BY ARTICLES.

Table showing the imports into Uruguay in 1888 and 1889.

Articles.	1888.		1889.	
	Quantity.	Official value.	Quantity.	Official value.
Liquors:				
Alcohol ... litres	697,450	$89,069	391,981	$33,595
Absinth—				
In bulk ... do	31,966	8,696	47,635	14,506
In bottles ... dozens	4,058	17,679	.....	.....
Anise—				
In bulk ... litres	34,535	5,630	23,635	7,124
In bottles ... dozens	91	604	.....	.....
Bitters—				
In bottles ... do	10,974	57,061	.....	.....
In bulk ... litres	155,489	69,513	292,573	130,337

Table showing the imports into Uruguay in 1888 and 1889—Continued.

Articles.	1888		1889.	
	Quantity.	Official value.	Quantity.	Official value.
Liquors—Continued.				
Caña.....litres...	1,736,295	$139,074	1,737,057	$139,397
Cognac—				
In bottles.....dozens...	1,610	9,245	.....	.....
In bulk.....litres...	204,611	90,815	288,825	129,450
Beer—				
In bottles.....dozens...	11,791	28,295	.....	.....
In kegs.....litres...	392,914	76,834	636,652	132,753
Grappa.....do.....	32,521	4,704	25,359	3,178
Gin—				
In bottles.....dozens...	70	149	.....	.....
In bulk.....litres...	243,451	35,174	126,659	14,801
Kirsch.....do.....	1,672	735	4,338	1,474
Liqueurs and sirups—				
In bulk.....do.....	30,748	15,568	47,299	24,018
In bottles.....dozens...	659	3,131	.....	.....
Rum—				
In bulk.....litres...	18,460	7,713	24,658	10,648
In bottles.....dozens...	192	1,014	.....	.....
Cider—				
In bottles.....do.....	43	102	.....	.....
In kegs.....litres...	8,321	1,632	9,074	1,704
Schnapps—				
In bottles.....dozens...	1,822	3,955	.....	.....
In bulk.....litres...	388	64	6,366	1,072
Vermouth and fernet—				
In bottles.....dozens...	8,440	29,979	.....	.....
In bulk.....litres...	90,397	33,404	297,232	93,760
Red and white wine—				
In casks.....do.....	26,115,931	3,281,051	33,549,815	4,173,917
In bottles.....dozens...	1,735	7,880	.....	.....
Champagne—				
In bottles.....do.....	502	3,276	.....	.....
In bulk.....litres...	44,686	28,282	43,071	28,141
Whisky—				
In bulk.....do.....	11,182	4,158	16,117	5,939
In bottles.....dozens...	824	791	.....	.....
Total liquors.....	.....	4,054,777	.....	4,945,814
Groceries, comestibles, etc.:				
Olive oil—				
In bulk.....kilogrammes...	1,840,830	551,594	2,160,320	647,618
Do.....litres...	22,518	10,450	11,341	3,557
In bottles.....dozens...	865	2,613	.....	.....
Olives.....kilogrammes...	148,791	15,352	339,130	34,349
Garlic and onions.....	.....	.....	.....	13,418
Red pepper.....kilogrammes...	.....	.....	9,145	2,652
Caper buds.....do.....	.....	.....	1,914	377
Algaroba buds.....do.....	.....	.....	1,908	172
Almonds.....do.....	54,323	15,886	65,321	16,875
Canary seed.....do.....	250,576	3,085	75,774	7,577
Aniseed.....do.....	.....	.....	17,796	4,569
Anchovies.....do.....	849	247	4,269	888
Herrings.....do.....	942	525	.....	.....
Do.....boxes...	.....	.....	1,305	884
Rice.....kilogrammes...	4,034,403	360,685	4,925,077	460,685
Vetches.....do.....	.....	.....	13,528	1,353
Peas, beans, and lentils.....do.....	453,539	45,934	.....	.....

Table showing the imports into Uruguay in 1888 and 1889—Continued.

Articles.	1888.		1889.	
	Quantity.	Official value.	Quantity.	Official value.
Groceries, comestibles, etc.—Continued.				
Tunny fish.....kilogrammes...	2,567	$1,281	2,011	$1,009
Filberts.....do.....	28,038	3,645	41,273	4,452
Oats.....do.....	.....	.....	40,701	1,510
Sassafras.....do.....	.....	.....	1,531	24,496
Sugar.....do.....	10,479,596	1,001,587	15,525,634	1,505,911
Glucose.....do.....	5,183	415	7,701	616
Fish.....do.....	360,245	53,088	474,976	71,247
Biscuits.....do.....	1,189	418	1,204	421
Cacao.....do.....	19,764	7,996	27,344	10,066
Coffee.....do.....	1,498,181	360,308	1,184,198	284,214
Chicory.....do.....	77,042	11,457	69,646	8,705
Squids.....do.....	1,020	516	3,474	1,737
Shrimps and lobsters.....do.....	18,124	5,245	23,835	6,913
Cinnamon—				
Ceylon.....do.....	.....	.....	769	546
Chinese.....do.....	.....	.....	15,792	4,567
Jerked beef.....do.....	3,072,702	307,270	3,179,430	317,943
Beef, pork (salted or preserved), sausage, bacon, etc.....kilogrammes...	25,240	14,697	.....	.....
Chestnuts.....do.....	120,371	13,242	273,299	28,952
Barley.....do.....	315,876	15,391	133,805	6,105
Fermented.....do.....	661,284	59,495	1,190,672	107,106
Indian caustic.....do.....	.....	.....	10,316	1,238
Chocolate.....do.....	101,603	61,132	129,299	76,021
Corn meal.....do.....	12,666	2,533	17,584	3,516
Edible cyperus.....do.....	.....	.....	1,808	181
Plums (fresh and preserved in brandy).....do.....	36,313	10,107	64,358	17,609
Cloves.....do.....	.....	.....	3,009	1,202
Cumin plant.....do.....	.....	.....	12,682	2,789
Comfits and nougats.....do.....	14,540	10,544	25,951	16,934
Nutritive preserves.....do.....	141,257	53,827	185,736	76,780
Nutritive preserves and tomato sauce.....do.....	.....	.....	115,853	29,233
Dates.....do.....	27,702	6,981	36,305	8,182
Preserved fruits.....do.....	.....	.....	35,784	17,872
Dulces—				
In general.....	.....	28,373	.....	.....
Dry.....kilogrammes...	.....	.....	15,158	8,166
Pickles.....do.....	49,062	9,848	71,616	13,981
Spices.....do.....	.....	.....	2,570	993
In general.....	.....	128,937	.....	.....
Farina.....kilogrammes...	1,782,555	71,484	2,138,463	84,196
Vermecelli.....do.....	19,475	3,106	67,017	10,810
Fruits—				
In brandy, etc.....	.....	26,295	.....	.....
Fresh.....	.....	.....	.....	9,978
Biscuits—				
Common.....kilogrammes...	.....	.....	4,769	525
Sweet.....do.....	106,408	36,927	148,869	52,642
Peas.....do.....	.....	.....	246,140	30,478
Gelatin.....do.....	5,466	3,819	7,383	5,169
Lard.....do.....	152,414	42,650	150,281	42,166
Tallow.....do.....	842,045	84,243	928,449	92,939
Cherries.....do.....	.....	.....	4,445	667
Guavas.....do.....	.....	.....	27,215	11,835
Beans.....do.....	.....	.....	2,944	294
Oatmeal.....do.....	5,083	508	17,221	1,722
Mushrooms.....do.....	.....	.....	25,372	17,707

Table showing the imports into Uruguay in 1888 and 1889—Continued.

Articles.	1888.		1889.	
	Quantity.	Official value.	Quantity.	Official value.
Groceries, comestibles, etc.—Continued.				
Flour—				
Chestnut.....kilogrammes...	.....	.....	1,365	$137
Bean.....do.....	.....	.....	10,156	1,016
Wheat.....do.....	860	$79	3,719,228	311,911
Ham.....do.....	45,152	20,938	53,500	24,267
Condensed milk—				
In bulk.....do.....	2,585	1,351	2,857	1,709
In jars.....dozens...	333	1,067	555	1,900
Tongues.....do.....	2,209	1,347	30	36
Do.....kilogrammes...	.....	.....	6,778	4,319
Lentils.....do.....	.....	.....	20,995	2,519
Hops.....do.....	33,575	10,714	48,884	16,131
Maizena.....do.....	7,682	1,535	9,122	1,824
Maize.....do.....	3,035	53	993,595	20,168
Manioc, tapioca, etc.....do.....	12,823	1,147	18,130	1,398
Peanuts.....do.....	204,010	14,281	4,495	315
Butter.....do.....	23,813	14,982	29,670	18,339
Cement.....do.....	720	108	667	106
Mielde caña.....do.....	53,577	3,214	64,009	3,603
Mustard.....do.....	.....	.....	14,092	3,872
Oranges.....number...	.....	.....	254,400	1,272
Nuts.....kilogrammes...	204,971	18,447	286,964	3,701
Dried fruit.....do.....	92,597	13,913	99,671	14,949
Oysters.....do.....	31,728	9,513	30,659	9,198
Potatoes.....do.....	129,167	6,094	3,331,905	148,260
Figs.....do.....	219,204	30,688	335,031	46,503
Raisins.....do.....	380,854	54,285	317,359	45,464
Pastils.....do.....	6,231	3,119	7,257	3,666
Fish—				
Salt.....do.....	2,255	407	1,810	346
Dried.....do.....	.....	.....	25,629	3,785
Pez palo.....do.....	32,831	5,146	11,076	1,348
Pepper.....do.....	.....	.....	43,306	14,788
Ground.....do.....	.....	.....	116,194	29,217
Pinions.....do.....	.....	.....	9,545	2,864
Beans (porotos).....do.....	.....	.....	574,978	43,189
Cheese.....do.....	271,704	111,116	223,620	93,682
Do.....dozens...	.....	.....	26,897	18,453
Bologna sausage.....kilogrammes...	237,142	10,974	171,543	8,734
Salmon.....do.....	1,480	702	3,585	1,791
Sauce.....do.....	.....	.....	5,489	2,189
Sardines—				
In oil.....do.....	145,103	72,551	180,676	90,262
In brine.....do.....	31,593	6,565	23,608	4,572
Pressed.....do.....	33,194	5,106	45,540	8,536
Tamarinds.....do.....	.....	.....	950	135
Tea.....do.....	99,136	78,531	95,589	76,945
Ticholas.....do.....	11,224	3,367	2,464	739
Bacon.....do.....	.....	.....	3,151	768
Wheat.....do.....	185	9	37,078,220	2,294,716
Truffles.....do.....	.....	.....	276	138
Vinegar.....litres...	7,239	515	14,426	1,016
Do.....dozens...	.....	.....	6	10
Paraguayan tea.....kilogrammes...	7,204,308	727,921	4,454,558	451,133
In leaf.....do.....	50,711	3,042	57,817	3,475
Total groceries, comestibles, etc.....	.....	4,676,863	.....	8,076,686

Table showing the imports into Uruguay in 1888 and 1889—Continued.

Articles.	1888.		1889.	
	Quantity.	Official value.	Quantity.	Official value.
Tobacco:				
Cigars, leaf ... kilogrammes	60,024	$101,515	121,479	$146,629
Black ... do	68	68	17	10
White ... do	93	118	1,509	2,776
Pichuá ... do	33,562	13,425	28,684	11,834
Snuff ... do	2,522	2,270	4,490	4,041
Leaf ... do	492,145	117,364	495,765	108,178
Fine cut ... do	14,234	17,081	14,205	12,265
Black fine cut ... do	317	190	726	435
In packages ... do	678,610	278,166	726,256	297,765
Plug ... do	1,198	575	2,949	1,436
Total tobacco	.....	530,772	.....	585,369
Dry goods:				
Bagging ... kilogrammes	1,313,976	184,075	1,349,462	186,115
Baize ... do	32,439	32,439	31,554	31,543
Cashmere ... do	422,837	860,200	427,894	893,920
Chuse ... metres	44,074	6,320	47,195	7,404
Oilcloth ... kilogrammes	.....	.....	1,345	484
Flannel ... do	51,369	118,770	45,537	104,076
Cotton goods ... metres	1,776,851	177,845	2,182,094	205,236
Do ... kilogrammes	2,817,423	2,196,267	2,675,008	2,087,989
Cotton thread ... metres	74,434	24,681	57,183	20,853
Do ... kilogrammes	141,093	128,737	190,476	173,720
Mixed ... do	20,156	16,411	26,751	22,226
Do ... metres	.....	.....	1,850	272
Woolen goods ... kilogrammes	285,643	81,117	369,042	99,575
Do ... metres	72,398	185,406	90,240	219,984
Mixed ... do	1,042,104	159,982	1,122,425	186,422
Do ... kilogrammes	10,238	15,703	9,416	14,357
Silk goods ... do	5,658	95,788	4,193	81,179
Do ... metres	13,030	2,745	6,493	5,653
Mixed ... do	132,023	54,338	161,420	62,274
Do ... kilogrammes	6,847	94,507	3,420	42,130
Coarse woolen goods (gergón) ... metres	19,405	3,373	20,749	3,513
India rubber ... do	36,234	16,898	58,731	26,467
Rubbers and oilcloths ... do	10,359	10,047	.....	.....
Do ... kilogrammes	674	243	.....	.....
Sail cloth—				
Lona ... do	185,322	87,248	225,050	105,527
Loneta ... do	42,575	25,372	66,195	37,693
Pañete ... metres	5,224	1,442	570	225
Cloth in general ... kilogrammes	149,252	171,390	100,682	121,349
Do ... metres	681	4,086	313	1,896
Impermeable cloth ... do	.....	.....	11,098	10,400
Shag ... square metres	114,477	95,081	166,348	134,820
Tulle, crape, etc ... kilogrammes	5,030	8,354	7,052	12,684
Jute ... do	2,722	37,231	1,455	31,902
Not specified	.....	.....	.....	313
Total dry goods	.....	4,896,095	.....	4,932,201
Haberdashery:				
Hempen sandals ... dozens	264	557	445	1,229
Shoes—				
Men's ... do	118	2,046	149	1,637
Ladies' ... do	439	7,286	1,243	8,383
Children's ... do	4,330	20,260	3,427	15,480

Table showing the imports into Uruguay in 1888 and 1889—Continued.

Articles.	1888.		1889.	
	Quantity.	Official value.	Quantity.	Official value.
Haberdashery—Continued.				
Drawers.....dozens...	2,049	$10,299	2,294	$10,589
Cotton.....do.....	450	2,527	1,226	5,238
Woolen.....do.....	433	4,325	680	6,687
Silk.....do.....	2	40	25	511
Men's and boys' cotton shirts.....do.....	5,806	34,682	8,185	48,405
Undershirts—				
Silk.....kilogrammes...	.....	.....	5	86
Thread, for men and boys.....dozens...	5,945	55,910	7,681	76,433
Chemises.....do.....	1,334	14,162	763	7,327
Cotton.....do.....	26,008	102,342	32,957	114,484
Thread.....do.....	56	470	228	1,744
Wool.....do.....	5,028	40,919	5,580	46,037
Silk.....kilogrammes...	200	3,834	495	9,666
Silk mixed.....do.....	.....	.....	21	208
Coverlets.....do.....	181,674	148,152	.....	.....
Cotton.....do.....	.....	.....	76,683	49,901
Wool.....do.....	.....	.....	8,224	10,414
Wool mixed.....do.....	.....	.....	67,075	55,955
Confections, for ladies and misses.....dozens...	1,834	19,935	919	6,777
Do.....kilogrammes...	17,937	72,310	13,076	51,881
Silk cravats.....do.....	3,666	28,994	3,442	42,183
Corsets.....dozens...	5,342	35,614	6,957	45,305
Curtains.....pairs...	5,243	11,304	7,309	15,712
Collars and cuffs.....dozens...	14,070	20,119	26,021	38,599
Rubber articles.....	.....	5,156	.....	11,921
Woolen caps.....dozens...	825	2,684	715	2,538
Gloves—				
Cotton.....do.....	1,625	1,965	2,506	2,977
Kid.....do.....	2,338	17,152	2,793	16,017
Thread.....do.....	174	369	181	405
Woolen.....do.....	469	1,190	413	522
Do.....kilogrammes...	691	1,659	.....	.....
Silk.....dozens...	40	160	.....	.....
Do.....kilogrammes...	1,096	8,383	457	11,055
Silk mixed.....do.....	.....	.....	196	2,321
Socks—				
Cotton.....dozens...	212,179	197,859	223,854	206,825
Thread.....do.....	1,559	6,013	3,059	10,485
Wool.....do.....	10,833	16,692	12,156	19,549
Silk.....kilogrammes...	108	2,026	304	4,858
Silk mixed.....do.....	.....	.....	29	356
Handkerchiefs—				
Cotton.....dozens...	128,823	83,210	146,348	87,975
Thread.....do.....	19,470	25,734	20,519	26,214
Silk.....kilogrammes...	2,583	51,529	2,782	55,865
Silk mixed.....do.....	745	9,610	805	9,906
Slipper soles.....dozens...	108,509	97,666	14,690	13,221
Punchos.....kilogrammes...	33,978	93,476	50,281	138,945
Mufflers—				
Cotton.....do.....	4,298	6,487	644	1,067
Wool.....do.....	10,532	32,459	2,132	6,735
Haberdashery in general.....dozens...	.....	10,034	1,248	31,776
Men's.....do.....	298	7,192	4,302	45,886
Ladies' and girls'.....do.....	2,254	37,729	776	12,512
Hats.....	.....	1,617	.....	2,201
Felt.....dozens...	321	13,473	312	13,096
Cloth, etc.....do.....	138	1,261	124	936

Table showing the imports into Uruguay in 1888 and 1889—Continued.

Articles.	1888.		1889.	
	Quantity.	Official value.	Quantity.	Official value.
Haberdashery—Continued.				
Hats—Continued.				
Straw and palm.....dozens...	5,986	$15,974	4,013	$11,087
Men's and boys'.....do.....	24,222	209,349	26,071	231,553
Ladies' and girls'.....do.....	139	1,940	377	3,602
Towels and napkins.....do.....	27,911	54,433	21,651	43,561
Do.....kilogrammes...	15,055	24,102	17,249	30,145
Boots.....	.....	17,100	.....	8,215
Shoes.....dozens...	845	8,529	1,503	7,616
Total haberdashery.....	.....	1,700,299	.....	1,742,814
Machinery, oils, and building materials:				
Oils—				
Linseed.....kilogrammes...	139,832	19,587	102,319	13,933
Cocoa and other.....do.....	30,423	3,895	17,753	2,223
Machine.....do.....	65,988	10,407	142,702	20,950
Do.....litres...	2,045	2,876	7,473	2,078
Steel.....kilogrammes...	176,618	35,355	138,364	27,673
Acids in general.....do.....	151,022	11,442	195,714	13,781
Bolts, etc., for machines.....	.....	.....	.....	32,971
Spirits of turpentine.....litres...	39,169	19,480	165,089	22,654
Pottery.....	.....	2,777	.....	3,657
Fence wire.....kilogrammes...	13,690,529	734,927	11,872,081	605,070
Cotton (banade).....do.....	26,518	3,799	17,066	3,957
Tar, pitch, and resin.....do.....	2,350,769	49,736	1,387,356	39,726
Plows.....number...	3,831	26,880	11,005	95,196
Saws.....	.....	327	.....	2,677
Spades.....	.....	.....	.....	3,213
Quicksilver.....kilogrammes...	345	345	.....	.....
Sulphur.....do.....	21,733	2,506	129,127	11,789
Paving stones and tiles.....M...	.....	.....	1,818	25,976
Stones, clay, and Portland cement.....	.....	.....	.....	83,841
Tiles—				
Roof.....M...	10,414	131,584	.....	.....
Do.....square metres...	2,009	3,050	.....	.....
Marble.....do.....	13,150	19,724	16,659	26,573
Mosaic.....do.....	.....	.....	5,855	8,849
Varnish.....litres...	1,195	1,775	2,018	1,586
Do.....kilogrammes...	44,249	19,358	49,699	21,532
Do.....dozens...	.....	.....	26	39
Bitumen.....grains...	464	2,334	1,046	4,538
Bronze.....kilogrammes...	3,559	1,884	6,450	3,179
Untarred rope.....do.....	444,032	87,631	440,132	68,246
Match boxes.....do.....	76,033	39,565	169,202	83,696
Boxes:				
Set up.....number...	.....	.....	5,823	1,456
Not set up.....do.....	43,913	9,695	80,950	16,260
Do.....square metres...	.....	.....	24,750	7,411
Lime.....kilogrammes...	22,488	360	49,887	807
Beds for canetas.....number...	.....	.....	8,077	8,077
Logwood.....kilogrammes...	91,561	44,219	81,620	40,302
Pipes.....number...	1,530	46	1,940	58
Clay.....do.....	.....	.....	64,989	36,699
Copper.....do.....	.....	.....	5,606	3,556
Iron.....kilogrammes...	.....	.....	220,135	15,481
India rubber.....	.....	.....	.....	7,239
Lead.....square metres...	.....	.....	175,603	18,072
Iron, clay, etc.....	.....	74,217	.....	.....

Table showing the imports into Uruguay in 1888 and 1889—Continued.

Articles.	1888.		1889.	
	Quantity.	Official value.	Quantity.	Official value.
Machinery, oils, and building materials—Continued.				
Mahogany.....square metres...	.....	.....	543	$869
Coal.....tons...	68,335	$683,376	94,813	948,153
Pasteboard.....kilogrammes...	59,897	4,641	298,314	16,145
Pasteboard patterns.....do.....	10,671	3,660	21,733	7,607
Tanning bark.....do.....	165,697	3,893	71,110	1,427
Empty casks.....	.....	45,376	.....	26,132
Wax.....kilogrammes...	1,797	463	1,827	988
Cedar, walnut, and oak.....square metres...	.....	.....	151,010	124,688
Ashes.....kilogrammes...	.....	.....	132,702	5,268
Chlorate of potash.....do.....	.....	.....	12,681	5,192
Copper.....do.....	8,474	4,193	6,886	3,403
Glue.....do.....	34,322	8,087	72,045	14,956
Iron columns.....do.....	7,906,979	356,659	2,785,257	124,156
Do.....number...	.....	.....	340	2,450
Cork.....kilogrammes...	4,817	578	9,602	2,130
Knee timber.....number...	.....	.....	5,533	5,533
Sleepers.....do.....	109,359	116,546	217,626	217,626
Wooden axles.....do.....	.....	.....	4,221	4,221
Elastic for shoes.....metres...	45,652	20,917	57,465	24,571
Stakes.....number...	.....	.....	25,599	1,020
Tin.....kilogrammes...	21,537	10,339	16,082	7,685
Stearine.....do.....	69,839	11,843	129,285	22,356
Waste.....do.....	16,883	2,033	17,042	2,047
Iron.....do.....	10,771,915	570,852	.....	.....
In bars and plates.....do.....	.....	.....	5,940,879	277,083
Galvanized.....do.....	.....	.....	5,607,937	396,583
Ingots.....do.....	.....	.....	786,861	11,802
Woolen felt.....do.....	.....	.....	2,524	3,797
Rope yarn.....do.....	31,975	4,157	49,276	6,406
Barrel twigs.....do.....	164,937	7,465	1,463,786	67,354
Phosphorus.....do.....	2,550	3,825	2,262	3,393
Gasoline.....litres...	15,798	2,360	11,004	698
Gum lac.....kilogrammes...	1,056	581	9,896	4,924
In rolls.....do.....	3,094	4,022	2,354	3,036
Machine oil.....do.....	.....	.....	358	36
Scythes.....do.....	.....	.....	7,289	3,606
Hatchets.....dozens...	1,569	9,455	1,269	8,593
Tools.....	.....	27,794	.....	23,367
Sickles.....kilogrammes...	.....	.....	808	1,064
Tin sheets.....do.....	642,512	64,251	673,928	67,393
Store hooks.....do.....	.....	.....	699	3,563
Water-closet fixtures.....do.....	13,495	2,796	5,624	1,467
Do.....number...	2,924	4,655	1,104	2,230
Bricks—				
Common.....do.....	121,000	1,311	80,500	805
Burnt.....do.....	109,000	3,872	53,806	1,928
Porous.....do.....	155,000	1,513	120,000	1,155
Brass.....kilogrammes...	.....	.....	10,279	4,127
Locomotives.....number...	6	34,480	14	83,204
Wood—				
Hard.....square metres...	.....	.....	134,038	87,282
Sawed.....kilogrammes...	1,548,097	29,224	1,926,156	9,886
Hewn.....	.....	259,524	.....	.....
Unhewn.....	.....	12,559	.....	.....
Machines—				
Binders'.....number...	.....	.....	20	3,000
Sewing.....do.....	6,574	105,780	6,815	122,475

Table showing the imports into Uruguay in 1888 and 1889—Continued.

Articles.	1888.		1889.	
	Quantity.	Official value.	Quantity.	Official value.
Machinery, oils, and building materials—Continued.				
Machines—Continued.				
Steam-engines.....kilogrammes...	21,315	$3,414	.....	.....
Do.....number...	39	54,831	3	$3,870
Disinfecting.....do.....	.....	.....	1	1,200
Packing.....do.....	.....	.....	4	260
Various.....do.....	.....	216,699	1,562	274,480
Photographic instruments.....do.....	.....	.....	2	80
Lithographic instruments.....do.....	.....	.....	4	583
Fire extinguishers.....do.....	.....	.....	11	175
Carpenters'.....do.....	.....	.....	1	300
Grass-cutting.....do.....	.....	.....	3	105
Butter-making.....do.....	.....	.....	2	30
Cheese-making.....do.....	.....	.....	3	60
Tinsmiths'.....do.....	.....	.....	32	388
Printing presses.....do.....	.....	.....	5	1,950
Agricultural.....	.....	.....	.....	43,508
Washing.....number...	.....	.....	2	40
Liquor-making.....do.....	.....	.....	2	2,480
For flour and other mills.....do.....	.....	.....	1	522
Reaping.....do.....	.....	.....	72	12,800
Threshing.....do.....	.....	.....	1	1,500
Fanning mills.....do.....	.....	.....	21	416
Corn-shellers.....do.....	.....	.....	1,895	12,407
Mowers.....do.....	.....	.....	68	5,150
Agricultural implements.....	.....	92,537	.....	27,516
Hay presses.....number...	.....	.....	2	160
For sowing grain.....do.....	.....	.....	1	55
Machinery and boilers for boats.....	.....	.....	.....	21,150
Marks for doors.....number...	.....	.....	5	41
Marble.....	.....	46,470	.....	73,462
Mortar.....kilogrammes...	89,590	3,710	117,482	5,883
Cart handles.....pairs...	.....	.....	45	93
Naval stores.....	.....	11,777	.....	21,844
Wicking.....kilogrammes...	48,076	19,187	65,032	25,900
Wooden shovels.....dozens...	.....	.....	2,875	21,816
Palms.....number...	.....	.....	1,665	1,665
Picks, small.....do.....	.....	.....	53,000	1,590
Pickets.....do.....	.....	.....	1,777,004	63,388
Pickaxes.....kilogrammes...	.....	.....	23,461	6,047
Paving stones.....square metres...	1,908	1,908	671	671
Paint.....kilogrammes...	803,667	86,404	1,003,542	116,904
Spruce pine.....feet...	223,262	7,030	113,958	4,066
Do.....square metres...	2,097,345	582,432	3,762,935	1,095,885
Housing, etc.....kilogrammes...	56,694	25,137	127,299	38,684
Slate roofing.....M...	26	3,709	320	9,688
Lead.....kilogrammes..	157,240	12,123	160,855	12,187
Posts.....number...	.....	.....	220,915	66,177
Potash.....kilogrammes...	.....	.....	19,035	1,843
Rakes.....number...	.....	.....	243	5,355
Spokes for cart wheels.....do.....	.....	.....	1,097	329
Plowshares.....do.....	.....	.....	24	96
Oars.....	.....	1,576	.....	790
Rails.....kilogrammes...	7,096,251	1,141,604	10,788,665	491,918
Roof shingles.....number...	.....	.....	4,400	110
Balances for scales.....do.....	.....	.....	1,387	3,293
Wheels for tram cars.....	.....	960	.....	.....
Grapevines.....number...	.....	.....	974,000	7,130

Table showing the imports into Uruguay in 1888 and 1889—Continued.

Articles.	1888.		1889.	
	Quantity.	Official value.	Quantity.	Official value.
Machinery, oils, and building materials—Continued.				
Salt.....hectolitres...	305,758	$158,235	.....	.....
Common.....do.....	.....	.....	370,349	$182,628
Rock.....kilogrammes...	.....	.....	352,690	3,527
Seeds.....	.....	20,908	.....	21,030
Boards.....dozens...	336	1,406	109	884
Do.....square metres...	730	387	1,627	817
Do.....feet...	4,300	258	.....	.....
Cork.....kilogrammes...	26,475	17,879	34,951	24,222
Talc.....do.....	20,000	600	176,470	4,995
Wooden stoppers.....number...	.....	.....	86	86
Clay tiles.....do.....	.....	.....	841	23,880
Cement.....kilogrammes...	29,791	948	69,035	2,071
Roman and Portland cement.....do.....	8,411,627	141,996	20,696,218	338,396
Printers' ink.....do.....	5,807	1,820	10,563	3,165
Printers' type.....do.....	28,391	16,434	46,771	31,963
Tubes, piping, etc.....do.....	3,972	4,769	.....	.....
Harness traces.....number...	3,961	4,927	6,730	7,963
Whiting.....kilogrammes...	181,668	3,726	158,425	2,410
Timber for thresholds.....number...	.....	.....	465	465
Material for printing.....	.....	4,560	.....	3,718
Pickets for saladeros.....number...	.....	.....	4,875	300
Colored glass.....boxes...	13,423	49,566	12,231	43,037
For skylights.....kilogrammes...	49,116	4,912	77,528	7,753
Beams.....number...	9,634	68,799	6,586	42,260
Various articles free of duty for telegraphs, telephones, railroads, tramways, gold mines, legations' use, etc.....	.....	636,659	.....	1,027,109
Sulphate of lime.....kilogrammes...	647,215	9,810	1,040,173	15,655
Jute.....do.....	28,649	3,107	9,017	992
Zinc.....do.....	232,271	21,444	390,862	34,895
Total machinery, etc.....	.....	7,266,919	.....	8,466,058
Miscellaneous:				
Bran.....kilogrammes...	.....	.....	29,600	592
Afrechillo.....do.....	.....	.....	13,020	260
Alfalfa (lucern).....bundles...	9	36	.....	.....
Do.....kilogrammes...	1,239,256	19,880	586,336	9,282
Soda and mineral waters.....dozen bottles...	21,852	30,880	18,936	30,954
Starch.....kilogrammes...	323,544	35,605	479,047	52,635
Sheep, alpaca.....number...	.....	.....	8	480
Indigo.....kilogrammes...	196,829	7,873	330,474	13,233
Scientific apparatus.....	.....	4,235	.....	2,506
Firearms.....	.....	33,088	.....	44,116
Accordions.....number...	.....	.....	17	855
Office and school furniture.....	.....	70,034	.....	67,238
Horns.....M...	387	11,627	67	2,016
Scales and balances.....kilogrammes...	115,021	5,677	124,513	6,092
Do.....number...	431	4,257	289	2,385
Trunks and portmanteaus.....do.....	361	1,413	545	2,395
Bags.....do.....	.....	.....	10,844	10,844
Tarred.....do.....	.....	.....	6,081	379
Pack cloth.....kilogrammes...	44,427	10,523	40,078	6,733
Paper.....do.....	12,188	2,003	23,030	1,499
Siphons and bottles.....dozens...	40,463	21,295	64,516	23,391
Iron boxes.....kilogrammes...	159,522	31,695	176,851	35,370
Iron safes.....number...	3	1,990	1	1,500
Iron and bronze bedsteads.....do.....	201	1,634	170	1,324

Table showing the imports into Uruguay in 1888 and 1889—Continued.

Articles.	1888.		1889.	
	Quantity.	Official value.	Quantity.	Official value.
Miscellaneous—Continued.				
Baskets ... number	312	$112	36	$74
Canoes ... do	1	200	22	4,339
Corks for bottles ... kilogrammes	8,022	4,655	7,727	5,009
Coal (wood) ... hectolitres	163,739	81,869	180,969	90,467
Wheelbarrows ... number	765	4,238	437	1,970
Carts ... do	351	2,347	10	369
Carriages ... do	131	41,591	225	81,746
Ashes and bones ... kilogrammes	485,340	4,853	797,153	7,972
Horsehair ... do	46,334	11,198	93,882	23,529
Steam barges ... number	...	...	3	14,150
Cooking stoves ... kilogrammes	1,760	281	14,696	2,185
Rockets ... boxes	7,082	7,790	7,172	7,889
Crystals and glasses	...	157,102	...	153,719
Skins and hides—				
Carpincho ... number	...	...	53	16
Sheep ... kilogrammes	64,775	6,477	77,967	7,797
Do ... dozens	2,052	37,762	1,734	32,053
Dressed ... do	2,550	15,823	2,245	13,692
Calf ... do	1,502	300	3,842	768
Salted ... number	38,229	191,160	39,404	195,520
Dry ... do	39,204	77,608	102,722	206,182
Becerros ... kilogrammes	7,116	11,368	7,994	12,810
White ... dozens	...	...	6	132
Horse ... number	496	347	525	368
Kid ... dozens	9,300	109,402	8,999	109,436
Pig ... number	60	240	269	1,076
Chamois ... dozens	287	1,719	444	2,664
Guanaco ... number	151	932	30	210
Wolf ... do	...	...	40	400
Various others	...	84	...	...
Leather—				
Patent ... dozens	861	13,279	963	16,549
Horsehide ... number	381	2,280	739	4,435
For carriage tops ... do	818	9,816	723	8,676
Morocco ... dozens	392	2,990	844	5,529
Sole, for shoes ... number	485	3,985	770	5,620
Do ... kilogrammes	506	405	1,943	1,604
Cowhide ... number	300	2,410	1,238	6,576
Demijohns	...	...	...	6,749
Drugs	...	331,897	...	331,842
Specific for sheep	...	41,303	...	126,145
Brooms ... dozens	4,689	2,814	79	237
Mirrors	...	59,085	...	54,863
Mats ... metres	1,945	350	9,837	1,968
Stoves ... number	6	136	4	220
Do ... kilogrammes	3,201	624	11,119	2,172
Pharmaceutical articles	...	20,812	...	21,138
Articles of iron	...	990,191	...	1,113,064
Matches ... gross	250	125	...	...
Do ... kilogrammes	107,963	63,573	47,327	28,104
Photographic articles	...	...	...	416
Empty bottles	...	10,344	...	13,805
Cattle, horned ... number	2,776	13,274	17,728	267,312
Sheep ... do	104	2,150	1,845	124,538
Horses and mares ... do	517	8,734	1,901	326,828
Mules ... do	3	110	165	10,364
Hogs ... do	120	600	...	...

Table showing the imports into Uruguay in 1888 and 1889—Continued.

Articles.	1888.		1889.	
	Quantity.	Official value.	Quantity.	Official value.
Miscellaneous—Continued.				
Hide cuttings.....kilogrammes...	.....	.....	13,667	$683
Thread.....do.....	15,487	$19,926	13,856	14,616
Pack thread.....do.....	106,961	30,444	145,625	40,562
In reels.....dozens...	543,955	115,598	495,594	107,541
For harvesters (binding twine).....do.....	76,996	23,639	231,765	73,913
For shoes.....kilogrammes...	4,988	2,847	5,040	2,903
In reels.....dozens...	.....	.....	30	36
Surgeons' instruments.....	.....	546	.....	1,051
Musical instruments.....	.....	6,082	.....	5,676
Common soap.....kilogrammes...	42,150	7,059	36,904	4,785
Coarse frieze cloth.....do.....	.....	.....	25,022	17,873
Coarse frieze cloth and robes.....do.....	20,004	14,550	.....	.....
Do.....dozens...	209	6,695	.....	.....
Jewels and precious stones.....	.....	127,032	.....	168,070
Kerosene.....hectolitres...	43,211	208,400	79,700	365,102
Wool.....kilogrammes...	107,201	14,135	302,490	60,500
For embroidery.....do.....	4,565	11,722	7,002	17,014
Wood.....	.....	.....	.....	2,850
Steam launches.....number...	562	3,018	1,470	3,530
Books—				
Blank.....kilogrammes...	33,581	18,982	13,282	7,402
In rustic binding.....do.....	43,434	17,401	108,913	41,765
Unbound.....do.....	16,326	9,676	18,569	10,995
Lithographs.....	.....	.....	.....	1,130
Porcelain and earthenware.....	.....	182,346	.....	198,849
Coarse aprons.....dozens...	1,223	8,987	913	8,212
Woolen blankets.....kilogrammes...	6,415	8,338	4,876	13,004
Mixed.....do.....	3,512	10,114	1,718	4,810
For traveling.....metres...	1,041	833	1,044	835
Cotton blankets.....kilogrammes...	169	270	.....	.....
Mercery in general.....	.....	1,416,823	.....	1,424,641
Saddles.....number...	225	2,250	319	3,406
Furniture.....	.....	202,446	.....	226,208
Ammunition.....kilogrammes...	61,247	5,329	82,474	6,598
Playing cards.....gross...	877	7,036	619	4,961
Paper—				
Albuminous.....kilogrammes...	224	515	206	477
White in general.....do.....	307,495	91,637	278,906	101,094
Wrapping.....do.....	497,866	79,488	615,852	91,977
For printing.....do.....	888,234	125,465	938,848	130,291
Printed.....	.....	54,944	.....	24,278
Silk.....kilogrammes...	.....	.....	220	77
Polished.....do.....	15,154	3,032	14,819	2,950
Painted.....do.....	14,660	5,250	34,043	12,172
Lead.....do.....	5,055	2,798	7,608	4,222
Dry.....do.....	1,247	436	6,448	2,258
Toothpicks.....	.....	1,136	.....	1,301
Parasols and umbrellas.....dozens...	2,960	27,677	4,519	42,699
Robes and rugs.....number...	.....	.....	1,622	3,601
Perfumery in general.....	.....	103,717	.....	85,837
Pianos.....number...	401	82,040	472	98,645
Piazabal.....kilogrammes...	.....	.....	21,614	1,296
Live plants.....	.....	860	.....	14,178
Silver plate.....	.....	25,826	.....	28,258
Ostrich feathers.....kilogrammes...	.....	.....	97	174
Powder and dynamite.....do.....	128,188	69,332	119,951	78,228
Empty smelling bottles.....number...	.....	.....	5,941	4,221

Table showing the imports into Uruguay in 1888 and 1889—Continued.

Articles.	1888.		1889.	
	Quantity.	Official value.	Quantity.	Official value.
Miscellaneous—Continued.				
Watches—				
Copper and composition.....number...	1,896	$5,263	2,518	$7,653
Gold.....do.....	1,374	45,132	3,661	115,360
Silver.....do.....	6,809	50,739	11,849	89,563
Clocks.....do.....	7,635	22,575	9,835	34,427
Jewelry.....	.....	1,543	.....	2,737
Leeches.....number...	20,000	579	40,000	379
Sewing silk.....kilogrammes...	1,018	9,843	1,992	17,005
Soda—				
Common.....do.....	143,818	6,119	152,659	6,216
Crystallized.....do.....	.....	.....	15,685	941
Double.....do.....	830,855	56,193	343,654	26,437
Articles for saddlery.....	.....	14,913	.....	29,473
Articles for carriages.....	.....	80,863	.....	46,765
Wax candles.....kilogrammes...	831	665	3,719	454
Tallow candles.....do.....	162,340	49,378	216,428	65,078
Wagons.....number...	68	49,322	89	70,863
Articles without classification.....	.....	157,429	.....	221,726
Total miscellaneous.....	.....	6,351,723	.....	8,074,921

RÉSUMÉ.

Articles.	1888.	1889.
Liquors, etc.....	$4,054,777	$4,945,814
Comestibles, spices, and cereals.....	4,676,863	8,076,686
Tobacco and cigars.....	530,772	585,369
Dry goods.....	4,896,095	4,932,201
Haberdashery, etc.....	1,700,299	1,742,814
Machinery, machine oil, building materials, etc.....	7,266,919	8,466,058
Miscellaneous.....	6,351,723	8,074,921
Total.....	29,477,448	36,823,863

IMPORTS BY CLASSES.

Liquors.—Taking up the imports for 1889 by classes, we find that of liquors England leads in whisky and cider. Of beer, Germany imported $67,479; England, $22,818; the United States, $2,104. Of cognac, France imported $105,510 out of a total importation of $129,450. Germany is credited with half the gin imported, her share amounting to $7,645, or twice what her competitors (Belgium and England) contributed. Cuba sent caña to the amount of $119,293 out of a total of $139,397. Nearly all the rum and champagne came from France and nearly all the vermouth and fernet from Italy. Of red and white wines, Spain furnished $2,014,036 out of a total of $4,173,917, Italy sending $1,141,557 worth.

Comestibles.—This class of imports is credited as follows: Of olive oil, Italy sent $492,257 out of a total of $651,175. Of rice, the entire importation was monopolized by Germany and Italy, between which it was about

equally divided. Of sugar, France supplied $647,361, or nearly half the total importation. Of coffee, Brazil sent $269,763 out of a total of $284,-214, Belgium sending nearly all the chicory. Of lard, the United States sent $28,693 out of a total of $42,166, Germany following, though not at all closely. Of wheat flour, the United States supplied $107,424; the Argentine Republic, $105,434, out of a total of $311,911. Of hams, England furnished $19,493 out of a total of $24,267, the United States not selling Uruguay a dollar's worth in 1889. In butter Italy, Germany, and France hold the market. Of oysters, the United States supplied $7,567 out of a total $9,198. Of potatoes (which should never be imported), Chile furnished half the importation, France coming next. In cheese Italy and Belgium lead, Holland furnishing about half as much as her competitors. Of sardines, France furnishes half the importation. Wheat is imported as follows:

Country.	Quantity.	Value.
	Kilos.	
United States	13,659,004	$850,664
Chile	9,989,790	639,118
Argentine Republic	5,344,384	337,711
Russia	3,228,987	206,655
Italy	2,881,325	134,187
England	1,973,652	126,314
Germany	1,078	67
Total	.....	2,294,716

The causes of this large import of wheat in 1889 have been fully discussed in a previous report to the Department (see "Wool, Wheat, and Cotton in Uruguay" in CONSULAR REPORTS No. 123). Of yerba maté, or Paraguayan tea, Brazil furnished the larger part, the Argentine Republic supplying more than Paraguay.

Tobacco—Cuba furnished $43,108 worth of cigars out of a total importation of $149,415. As to leaf tobacco, Brazil furnished $36,861; Paraguay, $25,313; and the United States, $24,376, out of a total of $108,178. Cuba and France furnished nearly all of the fine-cut tobacco. The United States supplied all the plug tobacco during the years 1888 and 1889, the quantity, however, being very small.

Dry goods.—In baize, pack cloth, cashmeres, and oilcloth England is well-nigh supreme. In flannel Germany is first and England a close second. In cotton goods England leads with $1,815,105 out of a total of $2,293,225, being practically without a competitor; we furnish but $32,444—truly a miserable showing. In woolen goods France leads, followed by England and Germany, but in mixed woolen goods England has the bulk of the market. In silk goods France is first. In canvas the United States takes the place held by England in 1888 at the head of the list. In cloth England is almost without competition.

Haberdashery.—In cotton shirts Italy is in the lead, supplying as much as England and France together. In corsets and cravats France leads, as

also in kid gloves. Of cotton gloves, Germany sent $121,541 out of a total of $206,825. Half the ponchos imported came from England, while she furnished nearly all the cotton and linen handkerchiefs. Most of the silk handkerchiefs came from France, while England sent most of the hats. In towels Italy is in the lead.

Machinery, oils, etc.—Of linseed oil, England furnished $13,445 out of a total of $13,933. In machine oil the United States leads, followed closely by England. Almost all the steel came from England. Of tar, resin, etc., the United States supplied $33,667 out of a total of $39,726. Turpentine was imported to the value of $22,654, of which we supplied all but $730, which is accredited to England. In agricultural machinery the United States is far in the lead. In pipes, iron, copper, etc., England is without competition. England furnishes $891,018 worth of coal out of a total of $948,153, the United States supplying 11 tons, valued at $110. Of timber, we send $117,837 of cedar, walnut, and oak out of a total importation of $124,688. In stearine France is without competition. In iron bars and plates, iron for roofing, iron hoops, pipes, etc., England is supreme. Of axes, we furnished $6,739 out of a total of $8,593, England sending only 36 dozens, valued at $846. Nearly all the tin and tin plate is accredited to England, as are also locomotives. In hard wood the United States stands alone. Of sewing machines, out of a total of $122,475, Germany supplied $82,342 worth; England and the United States furnish most of the small balance. Out of a total importation of spruce of $1,099,951 we supplied $1,018,796 worth. Half the lead came from England. As to rails for railways, England supplied $380,373; the United States, $61,880, out of a total of $491,918. In Portland cement England is in the lead. The United States supplied nearly all of the gypsum. Of material for railways, tramways, telegraphs, waterworks, etc. (free of duty), England supplied over half of the year's imports. In zinc Belgium is far in the lead.

Miscellaneous.—France supplies as much soda and mineral waters as all other nations combined. Of starch, Belgium sent $20,265; the United States, $13,200; Germany, $13,326, out of a total of $52,635. In writing materials and educational appliances England leads, followed closely by Germany, Italy and France also competing; we furnish but $2,070 out of the total import of $67,238. Of steel balances for weighing, the United States furnishes about half the import, though this item is small. England supplies $21,471 worth of iron safes; the United States, $526; total import, $36,870. France supplies $54,395 worth of carriages; the United States, $3,411; total import, $81,746; of which England's share was $11,700. Belgium supplied $57,783 worth of glassware, etc.; Germany, $57,201; England, $19,286; France, $11,930; the United States, $3,773. France, Belgium, and England supply the leather imported. Of specific for sheep, England sent $78,288 out of a total of $126,145. Of iron and ironware, England sent $391,552; Belgium, $210,865; France, $196,564; Germany, $182,412; the United States, $58,507, out of a total import amounting to

$1,113,064. Of thread, England sent $84,511 out of a total of $122,157. Of kerosene, the United States sent $323,321 out of a total of $365,102, England, which comes next, sending but $17,440. The drug trade was divided as follows in 1889:

France	$146,310
England	74,101
Germany	34,712
Italy	26,327
United States	26,915
Belgium	7,392

In books France leads. Of porcelain, England sent $117,447 out of a total of $198,849. France supplied mercury to the extent of $695,818; Germany, $311,819; England, $252,365; the United States, $5,913. In furniture Germany leads with $101,813; the United States next, $41,219; total import, $226,208. In blank paper Italy leads; in perfumery, France, followed by England; in pianos, Germany. Of powder and dynamite England supplies five-eighths of the total import. Nearly all the gold and silver watches come from France, as well as watches of copper and composition. Germany leads in clocks, pressed closely by the United States, which the year before held first place. Belgium supplies half the candles imported.

EXPORTS BY ARTICLES.

The following table gives the amount and value of each article of export from Uruguay for the years 1888 and 1889:

Table showing exports from Uruguay in 1888 and 1889.

Articles.	1888.		1889.	
	Quantity.	Official value.	Quantity.	Official value.
Animals:				
Horned cattle ... number	57,575	$784,039	22,687	$318,637
Sheep ... do	40,100	23,847	57,499	28,913
Horses ... do	2,909	20,240	8,544	111,553
Mules ... do	2,050	24,499	305	3,984
Hogs ... do	159	795	637	3,185
Goats ... do	110	220	.....	.....
Animal products:				
Animal oils ... kilogrammes	48,442	4,844	28,849	3,171
Ox horns ... M	2,375	65,693	2,765	80,856
Lard ... kilogrammes	770,752	191,978	977,945	244,478
Bones and bone ash ... tons	16,060	152,718	14,644	134,505
Marrow and shin bones ... kilogrammes	387,002	3,870	199,556	2,348
Meat—				
Jerked beef ... do	49,505,534	4,950,553	38,077,472	3,807,815
Concentrated ... do	330,151	33,015	184,977	18,498
Extract ... do	576,053	1,152,106	549,954	1,099,908
Fresh ... do	3,600	108	.....	.....
Hides—				
Ox and cow:				
Salted ... number	952,722	4,601,691	760,969	3,689,555
Dry ... do	1,000,626	2,001,253	1,049,681	2,099,462

Table showing exports from Uruguay in 1888 and 1889—Continued.

Articles.	1888.		1889.	
	Quantity.	Official value.	Quantity.	Official value.
Animal products—Continued.				
Hides—Continued.				
Heifer and kip:				
Dry.....number...	29,380	$58,760	34,057	$68,114
Salted.....kilogrammes...	33,892	6,472	27,874	5,575
Horse:				
Dry.....number...	29,380	26,820	8,124	5,724
Salted.....kilogrammes...	655,584	52,819	170,313	15,677
Skins—				
Calf:				
Dry.....kilogrammes...	88,617	17,723	137,441	27,488
Salted.....do.....	11,879	2,376	25,896	5,179
Pickled.....dozens...	144	6,280	540	828
Goat.....kilogrammes...	408	123	435	176
Seal and nutria.....do.....	.....	.....	733	198
Do.....number...	22,542	32,146	29,478	44,218
Carpincho.....do.....	.....	.....	1,910	573
Do.....kilogrammes...	3,806	842	.....	.....
Sheep.....do.....	6,395,969	639,597	11,161,863	1,116,186
Pickled.....dozens...	.....	.....	24	144
Deer.....number...	.....	.....	3,546	2,477
Do.....kilogrammes...	5,684	3,372	.....	.....
Swan.....number...	88	48	.....	.....
Tiger.....do.....	53	318	.....	.....
Lamb.....kilogrammes...	183,073	19,307	11,841	1,184
Hog.....number...	.....	.....	24	7
Hide cuttings.....kilogrammes...	859,041	42,927	691,196	34,559
Tallow.....do.....	20,185,268	2,287,465	16,967,590	1,926,093
Guano.....do.....	9,217,157	165,983	7,889,909	94,558
Wool.....do.....	38,120,953	7,587,924	45,433,529	9,149,932
Tongues—				
Dried.....dozens...	730	403	499	349
Preserved.....kilogrammes...	782,021	78,202	584,099	58,401
Horn piths.....do.....	975,809	9,758	1,703,410	17,034
Hoofs.....do.....	113,510	1,311	61,655	540
Ostrich feathers.....do.....	11,610	18,891	33,803	60,475
Bacon.....do.....	.....	.....	157	16
Tripe, pizzle, and nerves.....do.....	32,287	3,373	71,136	8,371
Agricultural and dairy products:				
Hay.....bales...	.....	.....	16,492	65,968
Do.....kilogrammes...	1,357,460	24,210	.....	.....
Bran.....do.....	4,121,767	33,429	969,954	8,470
Fine.....do.....	159,290	1,585	.....	.....
Garlic and onions.....	.....	13,013	.....	4,315
Bird seed.....kilogrammes...	.....	.....	12,847	762
Pollen.....do.....	72,939	649	1,980	24
Oats.....do.....	480	8	1,760	28
Sawdust.....do.....	6,000	180	5,490	165
Fowls in general.....	.....	7,150	.....	4,572
Hayricks.....kilogrammes...	343,440	3,091	7,840	125
Barley.....do.....	8,100	162	30,360	607
Vermicelli.....do.....	76,498	7,317	167,200	28,392
Fresh fruit.....	.....	55,017	.....	6,683
Biscuit.....kilogrammes...	143,079	17,169	8,250	990
Granzas.....do.....	540	9	.....	.....
Wheat flour.....do.....	15,764,826	883,392	831,699	46,543
Corn meal.....do.....	2,208	60	.....	.....

Table showing exports from Uruguay in 1888 and 1889—Continued.

Articles.	1888.		1889.	
	Quantity.	Official value.	Quantity.	Official value.
Agricultural and dairy products—Continued.				
Eggs	.....	$793	.....	$1,954
Linseed ... kilogrammes	21,900	969	50,752	1,523
Flour ... do	345,853	14,665	125,500	5,020
Butter ... do	36	14	136	53
Maize ... do	18,617,025	211,930	7,661,921	81,380
Peanuts ... do	540	9	.....	.....
Hay (pasto) ... bundles	4,192	16,768	3,083	12,336
Broom straw ... bales	272	1,632	214	1,284
Straw ... cart loads	653	1,276	74	148
Do ... bundles	7,169	143	4,501	90
Potatoes ... kilogrammes	20,750	976	60,480	3,024
Beans ... do	.....	.....	1,800	58
Cheese ... do	3,775	755	64,159	12,832
Grits ... do	1,380	69	.....	.....
Wheat ... do	10,147,553	415,570	1,932,277	95,934
Vegetables	.....	21	.....	.....
Wine ... litres	2,200	135	.....	.....
Seal oil ... kilogrammes	.....	.....	45,106	4,511
Sand ... tons	155,149	155,149	301,549	301,549
Gravel ... do	.....	.....	50	50
Lime ... hectolitres	4,014	823	2,679	536
Charcoal ... do	3,250	2,275	134,086	95,670
Old copper ... kilogrammes	4,500	230	5,020	542
Wood ... cubic metres	2,327	6,437	13,926	38,393
Stone:				
Pebble ... tons	879	879	1,588	1,588
Common ... do	424,989	924,989	317,146	317,146
Agate ... kilogrammes	98,520	98,520	75,881	7,588
Limestone ... tons	2,851	6,566	3,092	7,020
Paving ... square metres	10	10	23,011	23,011
Do ... M	11,082	443,297	10,241	409,234
Small ... metres	30,066	30,066	11,213	13,175
Do ... kilogrammes	409,752	6,038	.....	.....
Blocks ... metres	.....	.....	360	342
Rags ... kilogrammes	5,851	115	2,101	402
Total	.....	28,008,254	.....	25,954,107

RÉSUMÉ.

Articles.	1888.	1889.	Increase.	Decrease.
Animals on the hoof	$853,640	$466,272	.....	$387,368
Cattle and cattle products	24,221,069	23,824,672	.....	396,397
Agricultural and dairy products	1,722,629	373,280	.....	1,349,349
Miscellaneous products	1,090,954	1,221,847	$130,893	.....
Articles for provision of vessels	119,962	68,036	.....	51,926
Total	28,008,254	25,954,107	130,893	2,185,040

Looking at the destination of the exports, we find that in 1889 the Argentine Republic took all the paving stones, her purchases amounting to $409,634. Of horns, Belgium took $35,987; France, $23,041; England,

$14,070. Jerked beef is one of the largest exports of the country and was sold to the following countries in 1889:

Brazil	$2,639,472
Cuba	249,724
England	89,175
Argentine Republic	30,633
France	17
Chile	293
Spain	32,754
Not specified	765,717
Total	3,807,815

It will be seen from the above that Brazil and Cuba are the markets for Uruguayan jerked beef. The reciprocity treaties now discussed between these countries and the United States are being watched with lively interest by Uruguayan stock-raisers. The extract of beef was exported as follows:

England	$877,274
Belgium	165,974
Argentine Republic	34,656
Not specified	22,004
Total	1,099,908

This is a falling off of about $5,000,000 from the preceding year.

The exports of bones and bone ash were:

England	$83,056
United States	28,798
France	5,207
Belgium	6,638
Germany	3,922

Other countries took small amounts, the total reaching $134,505.

The exports of lard were:

United States	$71,554
France	51,254
England	18,115
Belgium	31,182
Germany	19,369

Other countries took small amounts, the total reaching $244,478.

The United States took about half the dry ox and cow hides, as may be seen from the following:

United States	$1,044,522
Spain	292,706
France	90,444
Portugal	151,372
Italy	126,186
England	22,796

Other countries took small amounts, the total reaching $2,099,462.

England, France, and Belgium took the bulk of salted ox and cow hides, none going to the United States. For the year previous we are credited with 7,037 hides, valued at $35,185. France took about half the sheepskins produced, none going to the United States. Tallow was sent to England, Chile, and France, England taking the lion's share. This is one of the chief exports of the country, amounting in 1889 to $1,926,093. Of the guano exported nearly all went to England.

Wool, the leading article of export, was sent as follows:

Country.	Quantity.	Value.
	Kilos.	
Belgium	15,511,440	$3,102,288
France	14,822,212	2,976,442
Germany	5,161,165	1,032,233
Argentine Republic	2,937,577	587,516
United States	1,336,353	267,271
England	996,627	199,305
Italy	245,661	49,132
Portugal	84,450	16,890
Spain	3,920	784
Brazil	76,375	15,274
Not specified	4,197,749	902,797
Total	.....	9,149,932

This is more than one-third of the entire export of the country. Our share in this large trade is certainly trifling. Half the preserved tongues go to England, while France took over half the ostrich plumes.

IMPORTS AND EXPORTS OF GOLD.

The imports and exports of gold have not been included in the foregoing tables. The movement of gold has been as follows in the last decade:

Year.	Imports.	Exports.
1881	$1,889,905	$2,468,114
1882	2,921,790	2,829,605
1883	3,708,696	3,530,947
1884	7,008,198	8,139,378
1885	5,336,421	6,518,987
1886	4,889,001	6,726,718
1887	3,560,440	7,127,147
1888	7,497,586	7,614,147
1889	5,676,111	10,148,668
1890 (11 months)	7,523,226	6,803,018

THE FINANCIAL QUESTION.

This brings us to a consideration of the finances of the country. How completely questions of finance overshadow all else is shown in the message of the President in opening Congress on February 15, 1891. While one sentence only is devoted to foreign affairs, nearly all the remainder of the entire document of several thousand words is taken up with a discussion of

the present crisis, the causes of the stringency in the money market and measures of relief, etc.

From 1881 to 1886 the balance of trade was constantly in favor of the country, leaving $14,588,000 on the right side of the ledger. Since that time the balance has been as steadily the other way, thus depleting the metallic stock of the country and making imperative new loans abroad in order to provide an adequate circulating medium, which was no sooner brought up to a volume sufficient for the needs of commerce than it began to disappear from the markets, shipped to settle deficits in international exchanges. In addition to this, the service of the national debt in London required a remittance of $6,700,000 annually. The earnings of tramways and railways, large industrial enterprises, such as the Montevideo Gas Company and Liebig's extract-of-beef works, at Fray Bentos, took gold out of the country to put it into the pockets of the European holders of the stock. Besides, large quantities of the securities of the nation found their way abroad. The following table shows to what an extent the stock of the "unified loan" (*emprestito unificado*) has been transferred to London since 1888:

Year.	Circulation in Montevideo.	Circulation in London.
1888.		
January 1	$5,549,700	$5,349,300
April 1	5,012,100	5,870,100
July 1	4,324,000	6,541,300
October 1	3,728,700	7,119,400
1889.		
January 1	3,468,400	7,372,300
April 1	3,371,400	7,441,700
July 1	3,008,600	7,786,700
October 1	2,964,100	7,813,100
1890.		
January 1	2,940,200	7,818,800
April 1	2,028,200	7,912,300
July 1	2,255,200	8,466,500
October 1	2,145,600	8,557,100

While in January, 1888, about $5,500,000 of the unified loan was held in either market, at the end of 1890 the circulation in Montevideo had sunk to $2,145,600 and London's holdings had risen to $8,557,100. The unified loan, like all fresh loans and all State bonds which are sold abroad, serves for the moment the purpose of money, and, although they add greatly to the accumulating mass of debt with which the future is burdened, they act at the immediate time as a relief to the market and a defense to the metallic stock. And so the country goes on, ever discounting the future, adding taxation in time of peace for posterity to pay, in the hope that a day may dawn when the surplus of production, after meeting the demands of consumption, will be adequate to extinguish the old debts in another manner than by paying one loan by the negotiation of another.

That the currency has suffered a violent and abrupt contraction of late years is a fact beyond the peradventure of a doubt. A comparison between 1889 and 1890 is instructive and interesting. The reserve in 1889 (statement of December account) was as follows:

National Bank	$4,314,719
London and River Plate Bank	5,358,341
English Bank of the River Plate	2,607,301
Italian Bank of Uruguay	1,004,999
Spanish and River Plate Bank	808,740
Total	14,094,100

The emission of the foregoing institutions of credit at the same date (December, 1889) was as follows:

National Bank	$8,975,270
London and River Plate Bank	2,906,940
English Bank of the River Plate	2,287,740
Italian Bank of Uruguay	1,146,930
Spanish and River Plate Bank	672,300
Total	15,989,180

The reserve of the above banks in November, 1890, was as follows:

National Bank	$558,151.71
London and River Plate Bank	4,182,985.09
English Bank of the River Plate	2,046,485.44
Italian Bank of Uruguay	479,908.82
Spanish and River Plate Bank	771,006.68
Italian-Oriental Bank	92,915.33

The emission at same date was as follows:

National Bank	$5,557,331
London and River Plate Bank	2,016,940
English Bank of the River Plate	1,121,320
Spanish and River Plate Bank	216,000
Italian Bank of Uruguay	376,760
Italian-Oriental Bank	49,530

It will be seen from the above that, while the banks had in their vaults in 1889, in specie and convertible paper issues, between $28,000,000 and $30,000,000, the circulating medium has been restricted in 1890 to $11,300,000, and of this $8,000,000 was in the bank safes and only $3,500,000 in actual circulation.

THE BUDGET.

The estimate of expenditures for the fiscal year 1889–'90 fixes the revenue at $14,954,500, an increase over the previous year, when the revenue was calculated at $13,862,000. In 1884–'85 the estimate was $11,640,000; in 1885–'86, $13,385,000; and in 1886–'87, $13,044,200. In the year 1889–'90 the custom-houses were expected to contribute $10,000,000 of this revenue, the property tax being set down at $1,800,000. The indirect taxa-

tion is certainly very onerous here, the per capita rising to a very high figure, inasmuch as the little country has scarcely more than 500,000 souls. The tariff is, of course, though high almost to a prohibitive point, a strictly revenue tariff, the raising of funds to administer the government being in nearly all these South American countries the sole object in view. The direct tax, on the other hand, is very light, less than 1 per cent. on the estimated value of the wealth of the Republic.

The expenditures for 1889–'90 were estimated as follows:

Congress	$545,146
The Presidency	64,636
Ministry of foreign affairs	149,758
Ministry of government	2,028,112
Ministry of finance	1,172,707
Ministry of justice, public instruction, etc.	1,222,855
Ministry of war and navy	3,397,068
Interest on public debt	6,009,231
Total	14,589,513

The expenditures for the last 5 years have been estimated as follows:

1884–'85	$11,520,491
1885–'86	13,365,107
1886–'87	13,018,530
1887–'88	13,834,149
1888–'89	13,811,308

The large item for the ministry of war and navy may well claim a moment's attention, about one-fourth of all the revenues of the country being sunk in this department. In 1889 the army was composed of 21 chief officers (*jefes*), 211 officers, and 3,200 soldiers. The navy consists of eight small gunboats. On this force the country spent nearly three times as much money as on the cause of public education and the administration of justice.

FOREIGN COINS IN URUGUAY.

Uruguay has no gold coin of her own. All the coins of modern states circulate at a valuation fixed by law, to wit:

Description.	Value.	Description.	Value.
20-mark piece	$4.60	Condor of Chile	$8.82
Argentine $5 piece	4.66	Double eagle of the United States	19.32
8-florin piece of Austria	3.73	20-franc piece	3.73
20,000-reis piece of Brazil	10.56	£1 piece	4.70

The above are the foreign coins, with their subdivisions, most frequently seen. Besides, there are about $2,000,000 of Uruguayan silver in circulation and a small quantity of copper, coined some years ago at the Buenos Ayres mint. No approximation can be ventured as to the amount of foreign gold in actual circulation at a fixed time. All the issues of the several banks, the

volume of which has already been given, are convertible into coin on demand, with the exception of the notes of the National Bank, which suspended specie payments July 4, 1890. These notes, however, need not be considered at all in an account of the circulation, as they ceased entirely to perform the money function after the collapse of the bank. To sum up, Uruguay is on a nominal gold basis and has no inconvertible paper money in circulation.

THE PUBLIC DEBT.

The debt of Uruguay is made up of loans running back as far as 1859, about three decades. The bulk of these and earlier loans were consolidated in 1883 into the unified loan, which includes to-day rather more than half the obligations of the nation, amounting on January 1, 1890, to $50,480,350. At that date the national debt stood as follows:

Italian debt	$708,850.00
French debt	1,334,725.14
Central Uruguay Railroad	730,500.00
Santa Rosa Railroad	1,685,000.00
Mortgage debt	4,518,787.00
Unified loan	50,480,350.00
Higueritas Railroad	624,500.00
Railroad debt	94,478.00
Public loan and conversion debt	19,588,190.00
Amortization debt	1,255,421.39
Total	81,020,801.53

Since January 1, 1890, the debt has been augmented by the issue of treasury bonds to the amount of $4,200,000 to cover part of the deficit left from the administrations of Santos and Tajes. The present Government, which took office March 1, 1890, signalized its advent by a loan of $9,400,000 to bridge over financial difficulties, the bonds of the nation being issued therefor. There is also a large floating debt, which does not figure in the statistics above cited, and also a municipal loan of $6,000,000, which is held here to be a public debt. The public debt of Uruguay soars into the region of $100,000,000, and the population, in my judgment, scarcely exceeds 500,000, and yet there is another loan on the tapis involving from $3,000,000 to $5,000,000.

The chief of the statistical bureau has estimated the population of the country in 1889 at 711,656, and the census taken in 1889 showed that 214,682 of this number are inhabitants of the department of Montevideo. Taking the population at 700,000—a large figure, unquestionably—we have a per capita indebtedness of nearly $143, placing Uruguay in the very forefront of the heavily debt-burdened states in the world.

A comparison of the obligations of whole sections of our own country is instructive, and may serve to set off matters here in their true light. In 1880 the State debts of all the New England States united amounted to $49,950,926; the debts of this section (State, county, township, and muni-

cipal) amounted to $163,871,627. The State debts of all the thirteen Southern States—which have been so onerous as to suggest repudiation as the only remedy—amounted to $125,728,155, while their State, county, township, and municipal obligations amounted to $220,048,715. The State debts of the Western States, whose inchoate, formative condition and present pressing needs naturally make them, like South America, borrowers, amounted to $35,262,432, and their State, county, township, and municipal obligations amounted to $227,403,648. The public debts of the Pacific States and the Territories amounted to $4,202,586, and their total debt (State and Territorial, county, township, and municipal) amounted to $25,061,598.

Singling out one of our States, a young State—Minnesota—which possesses about 12,000 square miles more territory than Uruguay, and probably twice as much population, and immeasurably more paying ability if stress should call out her latent force, and we find that her entire indebtedness amounted in 1880 to $8,476,064.

Another consideration in passing: The sum of all the municipal debts of the cities of the United States which had over 7,500 inhabitants amounted in 1880 to $593,344,418, or about six times the national debt of Uruguay, and was expended as follows:

	Per cent.
For bridges	3.05
Cemeteries	0.05
Fire departments	3.3
Funding floating debts	18.02
Improvement of harbors	2.46
Improvement of parks and public places	5.94
Railroad and other aid	10.02
Refunding old debts	10.42
Schools and libraries	2.04
Sewers	3.07
Streets	11.95
War expenses	4.22
Miscellaneous	3.89
Waterworks	20.79

The lack of statistical data forbids any attempt at contrast as to the ends toward which this vast sum of $100,000,000 that Uruguay owes has been expended. Suffice it to say that these debts, in the main, were not incurred with a view to production, but to fill the void made by overconsumption; that Montevideo is without the beginning of port works, though the harbor is becoming shallower each year with the constantly accumulating deposits of detritus; that the country is without roads or bridges; that there are yet neither manufacturing plants nor diversified industries; and that the work of popular education throughout the rural districts has scarcely been begun. Considerable lines of railway have been built, though railroads do not "open up" whole sections of country here as in our West, their influence extending only to the immediate environs of the track. The city of Montevideo has been greatly improved and beautified in appearance.

The London Financial News of January 26, commenting on a late report to the foreign office by Her Britannic Majesty's minister-resident and consul-general at Montevideo, has the following:

Still, it is often urged that, after all, Uruguay has great natural resources, and that, in view of their possibilities of development, the national debt is by no means so excessive as it appears; but, judging from the consul's report, this is by no means the case. To take just one indication: trade has not expanded to anything like the extent that might have been expected from the rapid growth in the expenditure of the country. The figures are as follows:

Year.	Imports.	Exports.
1885	$25,275,000	$25,253,000
1886	20,195,000	23,812,000
1887	24,616,000	18,672,000
1888	29,477,000	28,008,000
1889	36,824,000	25,954,000

The marked increase in the imports is due, in a measure, of course, to the growth of population, but largely, no doubt, to the extension of the railway system, which has been developed by foreign capital aided by State guaranties.

As regards the exports, it is thought that the totals are smaller than they should be, owing to the trade which passes unnoticed over the Brazilian frontier; still, no allowance that may be made on this account can offset the fact that there has been little increase in the value of the exports during the past 5 years. The revenue shows, of course, a large increase, the total having risen from $11,720,000 in 1885–'86 to $15,690,000 in 1888–'89; but this has resulted almost wholly from an expansion in the customs receipts. In fact, Mr. Satow, the British consul, does not consider that any great increase in the resources of Uruguay is possible under present conditions. He says that, in the opinion of good judges, the territory of the Republic now carries as many head of sheep and horned stock as the natural circumstances render possible, and that "no considerable increase of the national wealth can be looked for from this source." It is to an extension of agriculture that attention must now be turned, but in this direction development is hampered in several ways. The country is well suited for agriculture, but labor is scarce and dear, while the want of good roads greatly detracts from the value of the railways. The making of roads in connection with the railway system is, in fact, indispensable to the profitable development of the grazing and agricultural industries. Until this necessity is recognized and dealt with, Mr. Satow says that the future progress of Uruguay must be at an extremely slow rate.

To remove the impediments that clog the development of the Republic it is necessary, however, to spend money—and money can not now be obtained from abroad—and to reduce taxation rather than increase it, especially on the imports, by which the cost of production is increased—a policy that is evidently out of the question now. The position, therefore, is anything but a hopeful one, and it is not easy to see where relief is to come from. That Uruguay desires to be honest is quite possible; but, unfortunately, she seems likely to lack the power of fulfilling her obligations for very long, notwithstanding increased taxation and a spurt of economic self-denial. No immediate difficulties need be apprehended, for the April coupon is provided for, and, if Congress votes the fiscal changes, the evil day may be postponed. It is not an agreeable task to be the prophet of disaster or to point out unpleasant facts to people who have made mistakes, but it is better to do this than to let them live in delusion from which there must one day be a rude awakening. No doubt most investors have grasped the fact pretty fully that Uruguay is in dire financial straits, but few, we imagine, realize how little reliance can be placed upon a rapid expansion in the natural resources of the country; and without such an expansion the feeble expedients of financial reformers can not accomplish anything more than a temporary relief.

CARRYING TRADE OF URUGUAY.

The following table gives the arrivals and departures of vessels engaged in foreign trade according to nationality:

ENTERED.

Flag.	Sailing vessels.		Steamers.	
	Number.	Tons.	Number.	Tons.
Uruguayan	.....	.....	6	1,600
English	248	227,201	435	691,093
Italian	98	62,479	130	235,954
Norwegian and Swedish	191	139,741	3	4,130
Spanish	76	18,239	24	42,542
German	48	24,352	144	229,327
French	8	8,954	156	349,802
Brazilian	6	1,431	49	27,962
United States	40	24,346	1	1,445
Dutch	5	4,408	10	19,975
Danish	12	2,759	1	1,198
Belgian	.....	.....	20	30,830
Russian	12	7,998	1	1,361
Argentine	3	1,709	3	1,026
Austrian	15	9,579	3	3,928
Portuguese	1	416	.....	.....
Greek	3	914	.....	.....
Chilean	.....	.....	1	1,319
Total	766	534,526	987	1,643,492

CLEARED.

Uruguayan	1	344	6	672
English	199	194,674	460	725,063
Italian	85	48,408	135	240,711
Norwegian and Swedish	182	141,321	2	2,652
Spanish	52	11,977	26	44,739
German	44	22,184	145	222,413
French	5	5,644	156	331,533
Brazilian	8	2,338	42	23,869
United States	34	20,619	1	1,445
Dutch	4	3,995	10	19,975
Danish	9	1,622	1	1,070
Belgian	.....	.....	21	30,699
Russian	10	7,385	.....	.....
Argentine	3	2,020	7	8,063
Austrian	12	6,389	4	5,292
Portuguese	4	1,719	.....	.....
Greek	2	515	.....	.....
Chilean	.....	.....	1	1,319
Total	654	471,154	1,016	1,659,515

In the coast and river trade 1,877 sailing vessels and 1,748 steamers entered the port of Montevideo in 1889, and 1,925 sailing vessels and 1,702 steamers cleared.

The following table exhibits the carrying trade of Uruguay with foreign nations in 1889, port of Montevideo:

Class.	Arrivals.		Departures.		Total.	
	Number.	Tons.	Number.	Tons.	Number.	Tons.
Sailing vessels	766	534,526	654	471,154	1,420	1,005,680
Steamers	987	1,643,491	1,016	1,659,515	2,003	3,303,006
Total in 1889	1,753	2,178,017	1,670	2,130,669	3,423	4,308,686
Total in 1888	1,357	1,624,928	1,281	1,589,546	2,638	3,214,474
Increase	396	554,089	389	541,123	785	1,095,212

Recapitulating, we have for the year 1889 entrances and clearances at the port of Montevideo as follows:

Description.	Sailing vessels.		Steamers.		Total.	
	Number.	Tons.	Number.	Tons.	Number.	Tons.
Foreign trade	1,420	1,005,680	2,003	3,303,006	3,423	4,308,686
Coast and river trade	3,802	294,156	3,450	3,686,718	7,252	3,980,874
Total	5,222	1,299,836	5,453	6,989,724	10,675	8,289,560

The entrances and clearances at the other ports of Uruguay during 1889 were as follows:

Description.	Sailing vessels.		Steamers.		Total.	
	Number.	Tons.	Number.	Tons.	Number.	Tons.
Entrances	8,939	574,140	3,573	1,520,290	12,512	2,094,430
Clearances	8,925	578,488	3,510	1,481,984	12,435	2,060,472

AMERICAN VESSELS.

The arrivals and departures of American vessels since 1882 have been as follows:

Year.	Arrivals.		Departures.	
	Number.	Tons.	Number.	Tons.
1882	33	19,448	32	11,746
1883	22	12,388	24	13,680
1884	45	28,743	36	23,665
1885	32	20,082	41	27,414
1886	21	16,229	19	17,073
1887	21	17,700	18	15,480
1888	18	11,632	16	8,560
1889	42	27,321	36	22,196
1890	15	8,529	24	13,485

It would seem that we have scarcely held our own, certainly we have made no progress, in the carrying trade here during the last 10 years. The trifling and spasmodic changes shown above are meaningless. Our trade has, it is safe to say, grown somewhat; but the cargoes continue, as heretofore, to be carried in foreign bottoms.

BRITISH SHIPPING.

The position of Great Britain in the carrying trade of Uruguay for the year just ended, as given by the British consul-general at Montevideo, was as follows:

Table showing the British shipping at the port of Montevideo in 1890.

ENTERED.

Description.	Number of vessels.	Tons.	Crews.
With cargo	520	800,876	20,560
In ballast	9	5,275	151
Total	529	806,151	20,711

CLEARED.

With cargo	434	703,608	16,550
In ballast	84	101,592	3,457
Total	518	805,200	20,007

Table showing the direct and indirect British trade at the port of Montevideo in 1890.

ENTERED.

Description.	Number of vessels.	Tons.	Crews.
Direct trade	345	530,234	12,900
Indirect trade	184	275,917	7,811
Total	529	806,151	20,711

CLEARED.

Direct trade	108	179,985	5,809
Indirect trade	410	625,215	14,198
Total	518	805,200	20,007

PORT DUES AND LIGHT-HOUSES.

The following dues are payable by steamers entering Uruguayan ports:

Packet privilege for transatlantic steamers	$90
Packet privilege for steamers in Uruguay-Brazil trade	25
Bill of health	4

The dues for lights belonging to the nation are 3 cents per ton.

Sailing vessels pay dues as follows: Visit of port authorities, $1.50; other dues, same as for steamers, except charge for packet privilege (*patente de paquete*). By law of May 12, 1887, tonnage dues were abolished.

The list of Uruguayan light-house dues is as follows:

	Cents.
Cabo de Santa Maria (private)	4
Polonia (private)	2½
José Ignacio (private)	4
Punta Brava (private)	4
Farallon (private)	3
Panela (private)	3
Colonia, Cerro, Isla de Flores, Banco Ingles, and Punta del Este (Government)	3

It has been estimated that the revenue from these lights amounted to $282,000 in 1888. According to the British minister's late report, the tonnage of the port has doubled in the last 10 years; but there has been no reduction in the dues since 1879.

THE FUTURE OF THE COUNTRY.

Immigration has fallen off altogether. In 1890 the Republic received an increment from this source of only 9,185 souls, against 24,494 in 1889, most of this coming during the early months of the year. It is not improbable that Uruguay will actually lose in numbers in 1891. The best that can be hoped is that the population may remain stationary. Every steamer is freighted with human beings to southern Europe or northward to Brazil, just now the emigrants' paradise. Importations have also suffered a great decline, the revenues of the central custom-house at Montevideo being nearly cut in two. The salaries of the Government employés are in arrears. The outlook for the next 2 or 3 years is certainly dark enough. Happily the country is spared, so far, the aggravation of an irredeemable paper currency, though a Government decree may any day put the national finances on a paper basis.

The future of the country is, of course, safe. In spite of all obstacles, she will progress, though slowly. Judged from day to day, these southern lands seem often to retrograde in their march onward; but every decade shows great changes, all on the side of improvement.

Progress here, as in our Western States, does not move in straight lines; "booms," collapses, and new "booms" mark its tortuous path. Here, as there, we find speculation first and profitable utilization afterwards. Even the financial crises which now and then paralyze the activities of the people leave intact all the railways and tramways, all the land reclaimed from nature and put under cultivation or stocked with cattle—in a word, all the real development that has taken place in the country in the days of inflation before the drop comes.

Against all the arguments whose validity for the hour may, perhaps, not be gainsaid loom up two considerations of adamantine strength, that these are new, undeveloped, unpopulated countries of very considerable natural resources, and that they are situated in the western hemisphere within the

temperate zone. Given the state of impoverished, war-burdened, overpopulated Europe as the other factor of the problem, and what must, eliminating all minor matters, the ultimate solution be? The native element is powerless to make or mar the real future of the country.

AMERICAN TRADE PROSPECTS.

A passive, unprejudiced observer here on the spot would often be tempted to think that we are not, after all our protestations to the contrary, overanxious for a larger share of this River Plate trade. Most traveling men whom I have met this year have belonged to the class of bold, zealous young men of ideas who seem to have induced the heads of their firms at home to allow them to make this South American trip as a sort of venture. Nearly all have been hampered by the inexorable necessity of husbanding their allowances with closest care, while their competitors, representing great English, French, and German houses, travel and live in a way befitting the interests they represent. Parsimony in these matters is, at the present juncture, ill advised. Every traveling agent must do missionary work for the next few years, in order to even get for his line of goods a standing—much less to get control of the trade—and liberality in his personal expenditures will be amply repaid.

Our share (about $5,000,000 out of over $60,000,000 in 1889) of Uruguayan trade is manifestly small and plainly much less than we should expect to have. We hear much of the United States "competing" for this trade. She does not, however, at present "compete" at all with her European rivals. She furnishes what Uruguay can not elsewhere get—lumber, petroleum, agricultural machinery, etc.—and she takes from Uruguay hides, hair, and a little wool. I have no doubt that we can compete successfully in many lines of goods, notably cotton fabrics, after adequate means of transportation shall be established.

I have no confidence whatever in such enterprises as "floating exhibitions" as a means of increasing trade by calling attention of foreign merchants to our products. I am assured that not over 200 persons went out into the harbor here to look at the much-advertised Spanish floating exhibition which came here last year. The vessel lies to-day in this port embargoed by creditors, the goods having been sold at auction. I do not believe that we can gain a foothold in trade here by any such devices. My impression is that our people do not display the same talent as salesmen that they do as manufacturers. We are prone to think that what "goes" in New York and Chicago will, perforce, meet acceptance in Buenos Ayres or Valparaiso, and that if the native or local taste differs from ours we may "educate" it to an appreciation of the proper thing. This last is a most erroneous assumption. Our goods must be made, marked, and packed to meet, not the desires, but the demands, of these markets. If we do not care or can not do it, they will buy of those who will and can. All the countries of Europe are bidding for South American trade, and she takes her choice among all comers.

The problem of how to increase our trade with Uruguay and other South American countries was so fully discussed at the late international conference that a prolonged discussion of the subject may be dispensed with. It can not, nevertheless, be too often urged upon our people that we are fearfully handicapped in the race. Until the lack of rapid and frequent steam communication, banking facilities, and distinctively American houses shall be supplied, we must be laggards. The atmosphere here is charged with European influences. There are few Americans and less Americanism. Europe here, as elsewhere, fears us as a rival of great potential strength, and her merchants, who now handle our goods, can not be relied upon to take any part in extending our trade. We need American houses, branches of establishments in home cities, under the control of live, earnest American managers. The supineness of our people with regard to South American matters will, in years to come, be marveled at by those of us who shall live to see the change. The ignorance displayed daily by our "great dailies" in matters South American would be something amusing were it not so aggravating. Still, there has been a wonderful improvement within the 3 years that the writer has known this section of the world. These are our markets naturally. Trade extension southward along longitudinal lines is "manifest destiny." Its progress, however, can be accelerated or retarded by prompt and decided action or the reverse at this time.

FRANK D. HILL,
Consul.

UNITED STATES CONSULATE,
Montevideo, March 21, 1891.

CANADIAN EGG TRADE.

REPORT BY CONSUL PACE, OF PORT SARNIA.

Soon after the enactment of the new tariff by the Congress of the United States, which puts a duty of 5 cents per dozen on Canadian eggs, the dealers and producers in Canada took upon themselves the task of seeking a market elsewhere. Agents were sent to England, and by their efforts large consignments of eggs reached Liverpool and London. For a time it seemed that new avenues of trade in the egg line had been discovered and established.* Frequent allusions were made to this subject by the Canadian press, and, judging from the tone of these mouthpieces of public opinion, one would infer that the new tariff had really been a blessing in disguise to the Canadian producer of eggs. Each consignment of eggs to England was followed with jealous care by the interested dealer on this side of the Atlantic. The superior quality of Canadian eggs, as compared with those of Holland, Belgium, France, Germany, and Denmark, which were also to be

* During the year ended June 30, 1890, the imports of eggs into the United States from Canada were as follows: Nova Scotia, New Brunswick, and Prince Edward Island, 3,080,876 dozens, valued at $371,244; Ontario, Quebec, etc., 11,837,036 dozens, valued at $1,693,844; total, 15,017,912 dozens, valued at $2,065,088

found on the English market, was the subject of free comment by the Canadian newspapers, at least by a portion of the press of Canada. During the first few months of this transatlantic experiment no figures were given covering the enhanced cost of freight, insurance, and handling made necessary by the necessity of an ocean voyage. The time occupied in transit and the temperature of a ship's hold are questions which have a bearing upon this subject. "There is no such thing as a middling good egg;" certainly there is no article of commerce which may be so easily rendered worthless, nor one which requires more careful treatment to keep it marketable.

The following article, taken from a recent copy of the Toronto Globe, will, I think, be interesting to those seeking information upon this subject:

THE EGG TRADE.

The Tory papers have told us a good deal lately about the egg trade with England and about the good price obtained for eggs in the home market. Because the price here is about the same as that last year, it is held that the restriction of the McKinley bill has not injured the farmer. The Trade Bulletin of Montreal accounts for the stiff price this summer by saying that the farmers were induced to kill many of their hens during the winter, for feed was dear, and they felt that the 5-cent duty would practically close the American market. However that may be, the price in Canada is much below that ruling in the United States, even at such points as Buffalo, Detroit, and Oswego, the difference amounting, as a rule, to very nearly the extent of the duty. In other words, if the American market were free to the Canadian farmer, as it was before, he would get from 3 to 4 cents per dozen more than he obtains at the present time. Mr. J. W. Curts, a large egg dealer at Port Perry, says in a letter to the Observer that, "if it was not for the McKinley bill, eggs would be worth 15 cents, buying price, instead of 12 cents, which is the price this week." Mr. Curts gives some interesting particulars of the egg trade with Great Britain. He has just received word of the sale of 30 boxes which he shipped there on June 10. Forty-two days elapsed between the shipment and the receipt of the money from the consignee. The consignee writes:

"Very sorry to say the goods arrived in bad condition. The cases are very much broken. The waste will be something enormous, and, as every case wants turning out, it is impossible for me to know the waste before next week. The eggs look apparently fresh, and all my customers were very glad to get them. They are not quite so large as those I got from you last winter, but, looking bright and fresh, they were easily disposed of; but they all have come back. Customers report them musty, but friend Butcher sticks to them and will try and let you out with as little loss as possible. Your eggs have been good stock when you packed them, but they have suffered in transit immensely. In fact, all Canadian eggs arriving seem to run in bad condition. F——'s eggs arrived here last week; also, W——'s, in worse condition than yours, and doubt if we can sell them at over 3*s.* per 120. No use; this hot weather is too much for so long a journey for Canada eggs, and I don't think it will be a success no matter what other dealers say. I give you my honest opinion."

The transaction was not a profitable one for Mr. Curts. Here are the figures:

Number of eggs	34,500		
Loss—allowance for breakage	3,900		
Net amount	30,600		
	£	s.	d.
30,600 at 6*s.* 6*d.*	96	9	0
Freight and commission	10	10	7
Net amount received	88	18	5

Net amount after deducting exchange		$432.00
Cost of boxes and packing	$18.00	
Insurance on steamer	2.25	
Expense gathering eggs	15.00	
		35.25
Net proceeds		396.75
Cost of eggs here at 11 cents per dozen		396.00
Profit		.75

The truth is the price of eggs in New York, Boston, and other large centers in the United States is about as high as the price in England, and it stands to reason that the nearer market, if free, would be much more remunerative than the distant one. The Tories themselves admitted this self-evident truth last spring when they pressed Mr. Blaine for reciprocity in natural products. If they deny it now, it is only a mock denial made in the interest of the party, which no one is expected to take seriously.

SAM'L D. PACE,
Consul.

UNITED STATES CONSULATE,
Port Sarnia, July 27, 1891.

RIBBON AND SILK TRADE OF ST. ETIENNE.

REPORT BY COMMERCIAL AGENT LOOMIS.

The subjoined table shows in detail the value of the output of the ribbon and silk industry of St. Etienne, France, for the year 1890:

Articles.	Home consumption.	Exportation.	Total.
Braids	$231,200	$406,000	$637,000
Elastics	292,200	175,800	468,000
Neckties (mixed)	.....	200	200
Ribbons:			
Black—			
All silk	812,200	2,290,200	3,102,400
Mixed	176,400	244,000	420,400
Colored—			
Silk	697,400	2,694,200	3,391,600
Mixed	119,800	761,600	981,400
Fancy—			
Silk	587,800	1,545,400	2,133,200
Mixed	189,800	1,383,000	1,572,800
Velvet—			
Silk	186,000	.....	186,000
Mixed	206,000	2,106,200	2,312,200
Satin back, mixed	556,800	3,380,200	3,937,000
For hat trimmings	251,000	189,200	440,200
Piece goods:			
Silk	17,000	3,000	20,000
Mixed	340,000	47,000	387,000
Total	4,663,600	15,226,000	19,889,600

FRANCIS B. LOOMIS,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
St. Etienne, April 30, 1891.

VANILLA.

REPORT BY CONSUL KNOWLES, OF BORDEAUX.

Paris, London, and New York are the markets of the world for vanilla; after these Bordeaux occupies an important place. Great quantities of the bean are used in France. It is employed for making confectionery, pastry, ices, liqueurs, and cordials, and enters into the manufacture of perfumery.

Vanilla is of Mexican origin, though found in almost every tropical country. It is a vigorous vine of the orchid species, about 20 to 30 feet in height, with heavy, oblongated, sea-green foliage. It thrives in dense forests, where its branches entwine and interlace themselves with neighboring trees. The stem is four-cornered, or quadrangular, the flowers large, fragrant, and spike-like. It yields to cultivation.

The greater portion imported into France comes from her colonies—Guadeloupe, Madagascar (Sainte Marie), Mayotte, the island of Réunion, and Tahiti. Just what the product of these colonies has been for the last 10 years may be judged from the following table:

Years.	Réunion.	Guadeloupe.	Mayotte.	Sainte Marie.	Tahiti.
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
1880	164,289	7,845	.....	.....	.....
1881	138,263	11,224	.....	.....	.....
1882	133,122	13,562	2,191	.....	770
1883	199,166	12,331	2,420	583	1,044
1884	135,883	13,565	2,167	391	4,125
1885	155,548	14,282	2,640	8,800	18,350
1886	361,587	9,532	2,596	18,260	5,500
1887	417,230	12,100	4,774	18,700	6,600
1888	462,660	6,820	2,596	16,610	6,490
1889	506,462	9,044	19,195	19,195	7,018

The vanilla tree begins to yield in its third year and yields from thence to its thirtieth. The season commences in the month of April and lasts until the middle of June. The beans are gathered in their green state.

There are two existing methods of curing vanilla. In the first of these the beans are laid in quantities on great cloths spread upon the ground and exposed to the sun for a period of 2 months or until they have attained a dark brown color. They are then bunched in bundles of fifty and packed in tin boxes for exportation. The second method consists of attaching together by their inferior extremities a number of the beans and immersing them in a vessel of boiling water until they become white. They are then exposed for a few hours only to the sun, after which they are covered with a native fixed oil, usually that of the cashew nut.

There are four qualities of vanilla, and these are determined by the length and size of the bean, it being found that the flavor and perfume are in direct ratio to the weight and measurement. In appearance the beans

are slender and cylindrical, averaging about 5 or 6 inches in length and half an inch in thickness. Within is a soft black pulp. Certain Spanish words are used to distinguish the qualities, as *primeira*, first, 10 inches in length; *chica-prima*, second; *sacate*, third; and *basura*, fourth. The quality of the bean is afterwards further enhanced by the exudation of a certain needle-like crystal or efflorescence which covers the surface of the fruit, and called in French *vanille givrée* (frosted vanilla). The crystals are found to be almost pure benzoic acid.

The importations of vanilla into France during the past decade are as follows:

Years.	Quantity.	Years.	Quantity.
	Pounds.		*Pounds.*
1880	198,224	1885	205,176
1881	158,705	1886	264,035
1882	194,906	1887	247,693
1883	171,690	1888	395,761
1884	158,129	1889	258,579

The table following applies solely to the importations at the port of Bordeaux:

Years.	Quantity.	Years.	Quantity.
	Pounds.		*Pounds.*
1878	47,003	1885	49,720
1879	56,058	1886	57,420
1880	46,002	1887	47,388
1881	52,580	1888	59,459
1882	49,940	1889	39,490
1883	41,800	1890	46,701
1884	50,440		

As will be observed from the first of these two tables, the importation of vanilla into France has undergone a marked augmentation. At the port of Bordeaux the importations, though showing some slight degree of fluctuation, preserve about the same average.

Like other luxuries, its general consumption depends upon financial prosperity, and its ups and downs are influenced accordingly.

HORACE G. KNOWLES,
Consul.

UNITED STATES CONSULATE,
Bordeaux, June 18, 1891.

Para submarine cable.—I have the honor to report the completion and formal inauguration yesterday of a new submarine cable which connects, through a French line via the Antilles, this port with the United States and Europe. This is a matter of great importance to commerce with the Amazon valley.—JAMES M. AYRES, *Consul, Para, September 2, 1891.*

ALIMENTARY LAW OF GERMANY.

REPORT BY CONSUL-GENERAL EDWARDS, OF BERLIN.

I have the honor to transmit herewith, in the interest of American exporters, as well as all others whom it may concern, a translation of the "Imperial German law of May, 1879, in regard to trade in articles of food and drink and use," together with two appendixes.

A few years after the establishment of the German Empire the attention of the Imperial Government was called to the constant increase of adulteration of articles of food and use offered for sale, which increase was directly proportionate to the growth of commercial competition. The numerous complaints made not only alleged a depreciation of intrinsic and food value, but also an adulteration injurious to health. The latter charge was not confined to articles of food, but was extended to other objects of familiar use.

The laws already existing, and especially the penal provisions of the imperial criminal law book, were found to be insufficient, and therefore the Imperial Government, in accordance with article 4, Nos. 13 (penal law) and 15 (medicinal police), was compelled to seek the needed authority through imperial legislation, especially as complaints were repeatedly made in the Reichstag, in connection with the appropriations for the imperial sanitary department (sittings of December 31, 1876, and March 14, 1877), that the existing laws were unsatisfactory, different speakers calling on the Imperial Government to act as quickly and energetically as possible in the matter. Not taking into consideration the laws of the federal states, the following provisions of the penal code apply to cases of this sort:

SECTION 229. Whoever intentionally, for the purpose of injuring his health, gives to another person poison or other stuffs capable of destroying health, shall be punished with 10 years' imprisonment in the penitentiary. If thereby a serious bodily injury is caused, the penalty can not be less than 5 years in the penitentiary. If death is caused thereby, the penalty can not be less than 10 years in the penitentiary, and it may be extended to imprisonment for life.

SEC. 230. Whoever, through negligence, causes the bodily injury of another shall be punished by money fine to the extreme limit of 900 marks or with imprisonment not exceeding 2 years.

SEC. 324. Whoever intentionally poisons, or mixes with stuffs which he knows to be capable of destroying human health, wells or water tanks used by other persons or articles intended for public sale or use; furthermore, whoever knowingly and by concealing their character sells, barters, or otherwise brings into use such articles, poisoned or mixed with dangerous stuffs, shall be punished with imprisonment in the penitentiary not exceeding 10 years; and if death results therefrom, by imprisonment of at least 10 years or by imprisonment for life.

SEC. 325. In addition to the penitentiary sentence, when necessary the person may be placed under police supervision.

SEC. 326. If one of the * * * occurrences has happened through negligence, if an injury has been caused thereby, the penalty shall be imprisonment in jail for a term not exceeding 1 year; if the death of a human being has been caused thereby, the penalty shall be imprisonment in jail for a period of from 1 month to 3 years.

SEC. 367. With money fine up to 150 marks or arrest shall be punished:

* * * * * * *

(3) Whoever, without police permission, prepares, barters, sells, or otherwise transfers to another person poison * * *.

* * * * * * *

(5) Whoever, in keeping or sending poisonous wares * * * or in exercising the permission to prepare or barter such articles * * * does not follow the regulations provided therefor.

* * * * * * *

(7) Whoever barters or sells adulterated or spoiled drinks or edible wares, and especially meat containing trichinæ.

In the cases * * * 7 * * * in addition to the money fine or arrest, the adulterated or spoiled drinks or edible wares shall be seized, irrespective of the fact of their belonging to the condemned person or not.

The legal definition of fraud (the injury of the property of another through raising or supporting an error by means of advancing falsehoods or suppressing the truth for the purpose of creating for one's self or for a third party an illegal property advantage) in many cases can be applied to adulteration. (Sections 263 and 264 of the German penal code.)

In like manner, for cases of intentional breach or evasion of the law, the provisions of sections 40 and 41 apply, whereby articles so produced or used, or intended for such purposes, can be seized if they belong to the principal or accomplice in his offense (in cases where prosecution and conviction of a particular person are impracticable).

The preparatory steps were taken by the imperial sanitary bureau, with the assistance of a number of medical, technical, and agricultural experts, the first step being the preparation of a statement, as comprehensive as possible, of actual existing conditions.

The commission deliberated concerning the most ordinary articles of food and drink (meat, sausage, milk, butter, flour, confectioneries, sugar, chocolate, coffee, tea, beer, wine, mineral water), as well as some articles of use (petroleum, clothing stuffs, paper, wall paper, colors, toys, glazing for pottery, metal household utensils, enamel), and the different sorts of adulteration known, and argued the question if and in what way, from these adulterations or from the diseased or spoiled condition of such articles, danger to human health could arise, and how far, in the present condition of science and technics, it is possible, by technical examination, to establish the fact and result of adulteration. They also discussed what sort of legislation should be recommended and expressed the opinion that, from sanitary reasons, the existing state of affairs had become unendurable, and that, for the same reasons, it was improper to offer to the public not only articles positively dangerous to health, but also articles which, through adulteration or decay, have a diminished food value, and which are hence less fit to accomplish their object; and, further, that the practical control absolutely necessary for carrying out the provisions of law in this direction was closely connected with the organization of the sanitary service and could not be exercised without the establishment of a sufficient number of inspection stations.

Accordingly a bill was laid before the Reichstag (second session of 1878), which was based on the theory that the penalties must be enlarged and widened, and above all that the authority and power of the sanitary police must be increased in order to place in their hands the necessary means of control. This bill was referred by the Reichstag to a committee for thorough investigation, but the Reichstag adjourned before the report of the committee was completed.

In the interval before the next session of the Reichstag the bill was, after much study, entirely remodeled, owing to the advance of science and the experience already gained. The bill was passed, with slight clerical changes, by the Reichstag in the second session of 1879 and became an actual law on May 14, 1879. The law is based on the idea that in calling upon the police for aid it is absolutely necessary to give the latter increased power, as it is only possible to control adulteration by exercising strict supervision over the sale and barter of articles of food and drink, as well as over the trade in certain articles of use (toys, wall paper, colors, eating, drinking, and cooking utensils, and petroleum). This control is fixed in the final sections of the law (sections 1 to 4). State regulations giving the police still more extensive powers remain unaffected. Hence the imperial law fixes only the minimum of police control. To that part of the law establishing the organization of control are added regulations through which the Emperor is empowered to issue proclamations for the Empire in regard to the trade in articles of food and drink, the use of certain stuffs and colors, the manufacture of articles of clothing, toys, wall paper, eating, drinking, and cooking utensils, the sale and barter of forbidden articles, the quality of petroleum, and the manufacture, sale, and barter of materials intended for the adulteration of articles of food and drink, to apply to certain frontiers with certain modifications (sections 5 and 6). Here, also, the law is not intended to interfere with existing particular regulations of federal states (for certain districts or places) and is meant to be put into force only when necessary for the good of the Empire. The relation between state law and imperial proclamation depends upon the same principles as the relation between a law of the state and a law of the Empire. The legislative right of the individual states, for the purposes of taxation, to control the manufacture of articles of food and drink, as well as the trade therein, and for this purpose to fix suitable penalties, is not affected by this law.

To the police regulations are appended penal provisions for the violation of regulations proclaimed in accordance with law (section 8); penal provisions to secure the necessary control (section 9); penal provisions for cases of imitation or adulteration of articles of food or drink, or the sale or barter of such or of spoiled articles of food and drink, so far as only an injury of household interests comes in question (sections 10 and 11); and penal provisions concerning the manufacture, sale, barter, or bringing into circulation of articles of food, drink, and clothing, toys, wall paper, eating, drinking, and cooking utensils, or petroleum, so far as their use is capable of

injuring or destroying human health (sections 12, 13, and 14). In the closing sections (15 to 17) provision is made for the seizure of articles, the publication of judgment, and the disposition to be made of money fines.

No special instruction in regard to the mode of putting the law into effect has been issued, either by the Imperial Government or by the Prussian Government. The latter, through a circular instruction of August 2, 1879, (ministerial newspaper, p. 231), issued by the ministries of the interior, culture, and trade and commerce, merely instructed the provincial governments to require their officials to strictly enforce the law and to assist in the establishment of the institutions referred to in section 17.

W. H. EDWARDS,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Berlin, June 8, 1891.

THE IMPERIAL LAW OF MAY 14, 1879, IN REGARD TO THE TRADE IN ARTICLES OF FOOD, DRINK, AND USE.

[Inclosure 1 in Consul-General Edwards's report.—Translation.]

SECTION 1. The trade in articles of food and drink, as well as in toys, wall paper, colors, eating, drinking, and cooking utensils, and in petroleum, shall be under the supervision provided for in this law.

SEC. 2. Police officers are empowered to enter the places in which articles of the sort designated in section 1 are kept for sale during the usual hours of business or while the said places are open for trade.

They are empowered, after giving a receipt certificate therefor, to take samples, according to their own choice, for purposes of inspection, of articles of the sort designated in section 1 which they find in said places, or which are offered for sale or kept in stock in public places, markets, squares, streets, or in carts or wagons. On demand of the owner a part of the sample must be left with him, officially closed and sealed. For the sample taken recompense is to be made to the extent of the usual market price.

SEC. 3. Police officers are empowered, in the case of persons condemned to imprisonment on the ground of sections 10, 12, and 13 of this law, to search the rooms or places of such condemned persons in which articles of the sort designated in section 1 are kept for sale, or which serve for the storing or manufacture of such articles intended for sale, during the time fixed in section 2. This authorization begins with the putting of the judgment into force and expires with the close of 3 years, reckoned from the day on which the term of imprisonment lawfully ends.

SEC. 4. The competence of officers and officials for the measures designated in sections 2 and 3 depends upon the provisions of state law. State regulations which give to the police wider powers than those designated in sections 2 and 3 remain undisturbed.

SEC. 5. Regulations for protection of health may be issued for the Empire by imperial proclamation, with the consent of the federal council, forbidding:

(1) Certain sorts of manufacture, preservation, and packing of articles of food and drink which are intended for sale.

(2) The sale and keeping in stock of articles of food and drink of a certain character or under a name which does not represent their real character.

(3) The sale and keeping in stock of animals suffering from certain sicknesses for the purpose of slaughter, as well as the sale or keeping in stock of meat of animals infected with certain sicknesses.

(4) The use of certain stuffs and colors for the manufacture of articles of clothing, toys, wall paper, eating, drinking, and cooking utensils, as well as the sale or keeping in stock of articles manufactured in violation of this prohibition.

(5) The sale and keeping in stock of petroleum of a certain character.

SEC. 6. For the Empire, through imperial proclamation, with the consent of the federal council, the manufacture, sale, and keeping in stock of materials intended to be used in the adulteration of articles of food and drink may be forbidden or limited.

SEC. 7. The imperial proclamations made on the ground of sections 5 and 6 are to be at once made known to the Reichstag if it is in session, otherwise at its next session. They are to be put out of force if the Reichstag demands it.

SEC. 8. Whoever disregards proclamations issued on the ground of sections 5 and 6 shall be punished with a money fine not exceeding 150 marks or with arrest. State regulations must not threaten higher penalties.

SEC. 9. Whoever, contrary to the provisions of sections 2 and 4, refuses entrance into rooms, the taking of samples, or search shall be punished by a money fine of from 50 to 150 marks or with arrest.

SEC. 10. With imprisonment in jail not exceeding 6 months and with money fine not exceeding 1,500 marks, or with one of these penalties, will be punished:

(1) Whoever, for purposes of deceit in trade and commerce, imitates or adulterates articles of food and drink.

(2) Whoever knowingly sells articles of food and drink which are spoiled, imitated, or adulterated, concealing the fact, or who sells under a name intended to deceive.

SEC. 11. If the transaction mentioned in section 10, No. 2, resulted from carelessness, the penalty shall be a money fine of not more than 150 marks or arrest.

SEC. 12. With imprisonment, to which may be added loss of civil rights, shall be punished:

(1) Whoever intentionally manufactures articles intended to serve as articles of food and drink for others of such sort that the use of the same is capable of injuring human health; likewise whoever sells, keeps in stock, or otherwise brings into trade knowingly articles whose use is capable of injuring human health as articles of food and drink.

(2) Whoever intentionally manufactures articles of clothing, toys, wall paper, eating, drinking, and cooking utensils, or petroleum of such sort that the intended or probable use of such articles is capable of injuring human health; furthermore, whoever sells, keeps in stock, or otherwise brings such articles into trade.

The attempt is punishable. If thereby a serious bodily injury or the death of a human being is caused, the punishment shall be confinement in the penitentiary for a period not exceeding 5 years.

SEC. 13. If, in the cases covered by section 12, the consumption or use of the article was capable of destroying human health, and if this quality was known to the culprit, the penalty is not to exceed 10 years in the penitentiary; and if thereby the death of a human being is caused, the penalty may be from 10 years to life imprisonment in the penitentiary. In addition to this penalty the person may be condemned to subsequent police supervision.

SEC. 14. If, in the cases covered by sections 12 and 13, the crime was due to negligence, the penalty shall be a fine of not more than 1,000 marks or 6 months' imprisonment; if thereby the health of a human being was impaired, the penalty shall be imprisonment not to exceed 1 year; but if the death of a human being resulted therefrom, the penalty shall be from 1 month to 3 years' imprisonment in jail.

SEC. 15. In the cases covered by sections 12–14, in addition to the penalties mentioned, the articles are to be seized which were manufactured, sold, kept in stock, or otherwise placed on the market in violation of law, irrespective of the fact as to whether they belong to the condemned person or not. In the cases covered by sections 8, 10, and 11 the articles can also be seized. If, in the cases covered by sections 12–14, the prosecution or conviction of a particular person can not be carried through, the articles can nevertheless be seized.

SEC. 16. In the judgment or in the sentence it may be ordered that the condemnation shall be publicly made known at the expense of the condemned person. On demand of an accused person who has not been convicted, the court must order an open publication of the fact of such person not having been found guilty; the State treasury shall bear the costs in so far as they are not imposed on the person making the complaint. In the judgment or in the sentence the sort of publication shall be fixed.

SEC. 17. If, in the place of the act, there exists a public institution for the technical inspection of articles of food and drink, the fines imposed in accordance with the provisions of this law, so far as they belong to the State, shall fall to the treasury which bears the costs of maintaining such institution.

NOTES ON THE LAW.

NOTE TO SECTION 1.

On the strength of this law officers must not intrude in the inner organism regulated by state law. Only the relations existing between officials and persons engaged in trade are fixed by this law.

NOTES TO SECTION 2.

(1) The law is based on the self-evident proposition that, in addition to the right of control stated in sections 1–3, the police have the right, with due respect to the regulations applying to criminal processes, to undertake a confiscation or search (house search) in case there is suspicion of the existence of a criminal transaction.

(2) The limits of usual business hours are not to be taken as necessarily coextensive with those of the place, nor with those of that particular branch of business, but in accordance with the general custom of the concrete business in question.

(3) Police officers have the right to take samples of articles offered for sale, not only in closed business rooms, but also in public places, markets, squares, streets, or in carts, etc.

(4) When the right of confiscation, in accordance with section 15, is recognized in a criminal process which has been brought, then the right of claim for damages for the sample taken ceases to exist.

NOTE TO SECTION 3.

The words "for manufacture" were inserted in the bill by the commission. The reason given was that, in the case of persons who have already been sentenced to imprisonment in accordance with sections 10, 12, and 13 of this law, notwithstanding the common danger arising from such criminal transactions there, the police officers would not otherwise have enough authority to warrant them in searching the rooms in which articles of the sort designated in section 1 and intended for sale are manufactured.

NOTES TO SECTION 4.

(1) Where the communal organism already has an influence on the sanitary police in Bavaria, it is not the object of the law in any way to interfere with the same. Only where no such organization exists the law renders it possible to create the same, either through the commune or the State. (See explanation of the imperial commissioner to the Reichstag, April 1, 1879.)

(2) In section 4 the expression "landesrechtlichen Bestimmungen" has been freely translated "State law" and "State regulations." According to the Reichstag's protocol of April 28, 1879, the term "Landesrecht" (State right) was used, instead of "Landesgesetz" (State law), in order to avoid a possible misinterpretation of the meaning of section 1, namely, that the police can have no more extensive powers than those granted to them in sections 2 and 3.

NOTES TO SECTION 5, NO. 4.

(1) The control authorization does not apply to the fabrication of colors, but to the use of colors in connection with such articles as, through direct relation and contact with the human organism, by their use are dangerous to health. This has been found from experience to be an absolute necessity. Drawers of woolen stuffs are colored with fuchsine containing arsenic, and tin utensils are painted with colors containing arsenic which easily comes off in use, and articles of food are packed in paper stuffs which are colored with dangerous dyes. (See explanation of the imperial commissioner in the sitting of the Reichstag, April 1, 1879.)

(2) The use of poisonous colors is regulated by the decree of May 1, 1882 (Imperial Law Paper, page 55), which reads as follows:

"SECTION 1. The use of poisonous colors in the manufacture of articles of food and drink which are intended for sale is forbidden. Poisonous colors, in the sense of this decree, are all those dyes or preparations which contain antimony (*Spiessglans*), arsenic; barium, with the exception of barytes (native sulphate of barium); lead; chrome, with the exception of pure chromic oxide; cadmium, copper; quicksilver, with the exception of cinnabar; zinc, tin, gamboge, picric acid.

"SEC. 2. The preservation and packing of articles of food and drink in covers dyed with poisonous (section 1) colors, as well as in casks in whose manufacture poisonous (section 1) colors have been so used that a conveyance of the poisonous stuff into the contents of such casks is possible, is forbidden.

"SEC. 3. The use of the poisonous colors specified in section 1, with the exception of zinc white and chrome yellow (chromate of lead), in varnish or oil colors to be used in the manufacture of toys is forbidden.

"SEC. 4. The use of colors containing arsenic in the manufacture of wall paper, as well as the use of copper colors containing arsenic and of stuffs containing such colors in the manufacture of articles of clothing, is forbidden.

"SEC. 5. The sale and keeping in stock of articles of food and drink manufactured, preserved, or packed contrary to the provisions of sections 1 and 2, as well as of toys, wall paper, and articles of clothing manufactured in violation of the provisions of sections 3 and 4, is forbidden.

"SEC. 6. This decree shall be put into force on April 1, 1883."

Sections 2 and 3 were put out of force, in accordance with section 7 of the imperial law of May 14, 1879, by the decree of March 5, 1883.

NOTE TO SECTION 5, NO. 5.

The sale and barter of petroleum is regulated by the proclamation of February 24, 1882 (Imperial Law Paper, page 40), which reads as follows:

"SECTION 1. The sale and barter of petroleum which, under a barometer stand of 760 millimetres, when subjected to a heat of 21° C., emits inflammable vapors is permitted only when it is confined in barrels bearing, in a place where it will be sure to meet the eye, the inscription 'Feuergefährlich' (fire dangerous) in clear letters on a red ground. If such petroleum be offered for sale in quantities of less than 50 kilogrammes or is sold in such small quantities, the inscription must in like manner also contain the words, 'Nur mit besonderen Vorsichtsmassregeln zu Brennzwecken verwendbar' (suitable for use for burning purposes only with extraordinary precaution).

"SEC. 2. The examination of the petroleum in regard to its inflammability, in the sense of section 1, is to be made with the assistance of Abel's petroleum tester, attention being paid to the instructions to be issued by the imperial chancellor in regard to the mode of handling the tester. If the examination is made under another barometer stand than 760 millimetres, that degree of temperature is to be taken which, in accordance with tables to be published by the imperial chancellor, represents, under the barometer stand existing at the time, the degree of temperature designated in section 1.

"SEC. 3. This decree does not apply to the sale and keeping in stock of petroleum for healing purposes in apothecary shops.

"SEC. 4. By petroleum, in the sense of this decree, is meant raw petroleum and its distilled products.

"SEC. 5. This decree shall go into force on January 1, 1883."

For carrying out this decree, a notice was issued by the imperial chancellor on April 20, 1882, concerning the examination of petroleum in regard to its inflammability by means of the Abel petroleum tester. (See also circular rescript of the minister of the interior of January 25, 1883, in regard to the handling of Abel's petroleum tester and of April 9, 1883, in regard to the instruction of officials and experts in the use of Abel's petroleum tester on the part of the normal gauge commission.)

NOTE TO SECTION 8.

In the term "landesrechtliche Vorschriften" (freely translated "State regulations") the word "landesrechtliche" was substituted in the third reading of the bill for "landesgesetzliche," because "landesgesetzliche" regulations are usually considered to be only those to which the legislative factors have given their consent. The articles mentioned in sections 5 and 6, however, are affected by many legislative acts, and also by many decisions not arrived at through legislative channels, but from police regulations, *e. g.*, in Bavaria, through the State and local police authorities. The police regulations, legal according to State laws, are therefore covered by the expression "landesrechtliche Vorschriften," which has been freely translated "State regulations." (See also note 2 to section 4.)

NOTE TO SECTION 9.

The general principles concerning the conflict of several punishable transactions apply here also. When, therefore, one and the same act violates several penal laws, the one to be considered is the one which threatens the severest penalty. The legal powers of the police, in spite of the refusal to carry out their orders, are not further interfered with by the penal provisions of section 9.

NOTES TO SECTION 10.

(1) Sections 10 and 11 refer to cases in which no positive endangerment of human health is in question. The adulteration of articles of food and drink for purposes of gain can carry with it the punishment for fraud (section 263, penal code) if the fact can be established by the necessary proofs. In this direction nothing is altered by the law of May 14, 1879. On the other hand, the object of the law is to offer a sufficient punishment in the numerous cases of adulteration where the fact of fraud or attempted fraud can not be established. It is intended to take the place in such cases of freedom from punishment or of the application of the slight penalties of section 367, No. 7, of the penal code. To the fact of fraud belongs, in addition to the subjective cause (the desire of gain), the objective result—the injury to the property of another. This must be worked through presenting or supporting a falsity in such manner that untruths are advanced or truths distorted or suppressed. The proof of this and of the consequent injury of the property of another has its special difficulties when, in such transactions—which occur in the daily retail trade in articles of food and drink—somewhat ambiguous expressions are given in seemingly clear words. Furthermore, the suppression of a truth is difficult of proof. Even if the positive act of suppression of truth is not considered, the mere question of how far it is the duty of anyone to speak out the truth is one which adds to the difficulty of such cases. Even so great is the difficulty of the question as to whether or not there has been an injury of property, or as to whether or not, in accordance with usual local prices, for the amount paid for the adulterated article, the unadulterated article or a better adulterated article than the one delivered could have been obtained. For these reasons it was found, before the passage of the law, that the provision of section 263 of the penal code was often insufficient to properly reach trade, and especially retail trade, in which offenses closely approaching fraud constantly arise. Also, from a sanitary standpoint, although these sections do not apply to cases of positive injury to health, it was kept in view that the con-

sumer should not receive for his money articles which, while not exactly dangerous to health, owing to the change in their character, lack the food value called for by their price and for this reason are not entirely fit for the object of their purchase. The law, therefore, in order to satisfactorily reach such irregularities in the trade in articles of food and drink, declared as penal and fixed the penalty for certain transactions which were formerly unpunishable, or, at any rate, unpunished. Thereby the basis of the law is that whoever keeps in stock or sells articles of food and drink must not only avoid giving cause for the imposition of the penalties of section 263, but must do everything to make clear to persons desiring to purchase the real character of his wares. If the tradesman knows that the wares are spoiled, imitated, or adulterated, he must distinctly say so or he makes himself liable therefor. Whoever knowingly sells such articles of food or drink is no longer liable to the moderate penalties of section 367, No. 7, of the penal code; but to the heavier penalties here imposed.

As in the definitions of counterfeiting of certificates (*Urkundenfälschung*), sections 267 and 363 of the penal code, and coin counterfeiting (*Münzfälschung*), sections 146 and 147, false finishing (*fälschliches Verfertigen*) and imitation are placed in the same line as direct adulteration (*Verfälschung*). The definition of "Verfälschung" (counterfeiting, adulteration), on which the law was based, was that anything is counterfeit (*falsch*) which is not what it is called or designated. This can happen in two ways, viz, either the wares may be depreciated in quality without the name being changed or the thing may be left unchanged and at the same time receive a name to which it has no just claim.

In the bill, therefore, it was sought to extend the meaning of counterfeit (*verfälschen*) so that counterfeiting or adulteration could be charged when the adulterator of articles of food and drink (*a*) either by taking away from or adding to stuffs depreciates their value, or (*b*) gives the same the appearance of a better character than it possesses. As the basis of this definition the following was given: There can be mention of a penal transaction only when the outward appearance, name, description, and general look of the wares do not represent their real character. This can happen either when an artificial product is represented as being a natural product, so that the wares are given a better character than they really possess, or when a deterioration which has begun in them is hidden, concealed, or disguised; *e. g.*, when raw meat which is no longer fresh is artificially given the appearance of freshly slaughtered meat; when bad, thin milk, by the addition of stuffs, is given the appearance of good milk; or when tea leaves which have already been used, through the use of dyes or dust, are given the appearance of unused leaves. Whoever by descriptions or labels gives to wares a name which does not represent their character (*e. g.*, artificial butter may be designated as butter), gives to them the appearance of better qualities than they possess. The result is the same, though the process is reversed, when anyone deteriorates an article, be it by the removal of stuffs (*e. g.*, the removal of cream from milk) or by the addition of stuffs (*e. g.*, the mixture of water with milk, beer, etc.), and keeps in stock or sells the deteriorated article as undeteriorated, *i. e.*, with concealment of the deterioration or under a name calculated to deceive in regard to the deterioration persons desiring to purchase. To the latter class of counterfeiting or adulteration (*Verfälschung*) is closely related the concealing or disguising of a deterioration due, not to an act, but to a natural process (decay). Also, in the opinion of the technical commission, counterfeitings or adulterations (*Verfälschungen*) may be divided into two categories:

(*a*) Substitution of false wares for genuine, *i. e.*, complete imitation in the sense that something is produced under a designation which does not at all agree with the real character of the thing sold. This is covered in section 10 by the word "imitates" (*nachmacht*).

(*b*) Though the wares produced agree in character with the designation under which they are offered to the public, their character may be worse than their appearance. The incongruity existing between the real character and the appearance can arise from the quality being deteriorated while the original appearance is preserved, or by the appearance being improved while the quality remains in its original state. (See declaration of Government commissioner in the Reichstag, session of April 2, 1879.)

(2) Section 10 of this law applies to all who try to deceive in trade; not to those who act in such a manner that some one can be deceived in trade and commerce, but to such as seek to deceive.

(3) So far as an alteration of character is necessary for purposes of transportation, *e. g.*, with wine, the provisions of section 10 do not apply (see declaration of Government commissioner in the Reichstag, session of April 1, 1879). In general, existing trade and business customs, so far as they are exercised in straightforward, honest trade and arise from the nature of the trade, are not interfered with by section 10 of the law (see declaration of the referee of the commission and Government commissioner in the Reichstag, session of April 2, 1879). In the third reading of the bill in the Reichstag in the session of April 28, 1879, a proposal to secure in this sense all existing trade or business customs without exception was defeated.

(4) If it comes to a sale, it is sufficient that the seller has concealed from the purchaser a differential fact. If it is a case of mere keeping in stock, where the seller has entered into relations with no particular purchaser, the mere concealment of a fact is not punishable under section 10, as the possibility still remains that to an actual purchaser the seller would fulfill his obligation by telling the truth; but the law applies where the goods are kept in stock under a name which does not represent their character, and which is capable of deceiving.

(5) The manufacturer who adulterates (*verfälscht*) articles of food or drink is, in like manner, punishable only when the object of his action has been deceit (*Täuschung*). Whoever, for example, manufactures artificial butter is not punishable for that alone, because he, when he sells the manufacture as artificial butter, does nothing which is forbidden. Moreover, the purpose of deceit can usually be clearly detected. Whoever places a label capable of deceiving on an adulterated article, or on an article having an appearance better than its character really warrants, has clearly shown the intent to deceive. In other cases the proof of the presence of the intent depends upon the character of the adulteration, *e. g.*, when anyone has mixed with real coffee beans artificial coffee beans (clay) or with real tea tea artificially dyed or dusted.

(6) The highest amount of penalty threatened was so fixed that under section 75, No. 14, of the competency-of-courts law such cases can be tried before a "Schöffengericht."* This was so much the more necessary as under section 75, No. 10, the fraud punishable under section 263 of the penal code can in all cases be referred to the Schöffengericht, in which, under section 27, No. 6, it does not strictly belong.

(7) The meaning of spoiling (*Verdorbenseins*) of articles of food is not limited to unfitting of the same for use through internal decomposition, but is especially extended to cases where the use of the same is rendered loathsome through a disease of the animal from which they are obtained. The belief that the sale of such articles of food is not forbidden is not contradicted by the law if the purchaser is made aware of the facts in regard to the character of the article of food. (Decision of the imperial supreme court, October 5, 1881, III, p. 594.)

The meaning of adulteration (*Verfälschung*) of an article of food implies an attempted alteration of the same. It is not, however, necessary that the material composing the thing shall be affected; any manipulation is sufficient through which is obtained the appearance of a better character than in reality exists. (Decision of the imperial supreme court of December 2, 1881, III, p. 761.)

Clearing substances which exercise no influence on the substance and composition of the beer and which do not alter its character and condition can be regarded neither as malt surrogate nor as adulterating matter in the sense of the two laws cited. (Decision of the imperial supreme court of July 5, 1883, V, p. 495.)

Under spoiled articles of food are to be understood not only such as through external or internal causes are changed into bad condition, but also such as before being completely developed are so disturbed that they come to completion in a condition in which they can

*This court (Schöffengericht) consists of one official judge and two auxiliary judges, the latter being unofficial burghers chosen for their fitness. This court is competent in small criminal matters, verdict being pronounced by the official judge who sits as president of the judicial commission.

not be used, *e. g.*, the flesh of unborn calves. (Decision of the imperial supreme court of January 3, 1882, IV, p. 8.)

Under spoiled articles of food not only such are meant as those whose original good condition has been injured by circumstances subsequently arising, but also those whose natural development has been hindered and which thereby have failed to reach a normal condition. (Decision of imperial supreme court of September 27, 1883, V, p. 552.)

Meat which, through the fact of the animal from which it is taken having lost flesh (*Abmagerung*), is depreciated in fitness for food can not, on this account, be considered as spoiled (*verdorben*). (Decision of imperial supreme court of July 9, 1883, V, p. 511.)

The sale of articles of food and drink dangerous to health is punishable only when the sale is made with the purpose or probability that the wares are to be used as articles of food or drink. If this is the case, it is ground for prosecution and conviction. (Decision of imperial supreme court of March 11, 1881, III, p. 134.)

Under keeping in stock (*Feilhalten*), in the sense of the law, is only to be understood the keeping in readiness for sale to the public, and neither an offering nor an exhibiting of the wares is necessary. (Decision of imperial supreme court of February 8, 1883, IV, p. 137.)

The sale and keeping in stock of imitated or adulterated articles of food or drink is, under section 10, 2, punishable, even though the manufactured wares are not depreciated or rendered dangerous to health by the change in their original character. (Decision of imperial supreme court of February 24, 1882, IV, p. 194.)

A violation of law exists when an adulteration of an article of food through mixing material of small value with higher-priced material takes place, even when the former is itself a harmless article of food known in honest trade. Such articles must not be sold to consumers. (Decision of the imperial supreme court, November 13, 1880, II, p. 506.)

The adulteration of food articles undertaken for purposes of fraud in trade is not confined in its meaning to attempted fraud on fixed persons, *e. g.*, the next takers, but also exists where the fabrication is of such character as to assist in deceiving the consuming public. (Decision of imperial supreme court, January 17, 1881, p. 735.)

The application of section 10, No. 1, of the imperial law of May 14, 1879, is not limited by the fact that the manufacturer has not yet actually placed the adulterated (*gefälschte*) article of food on the market. If the manufacturer, however, has actually placed his fabrications on the market, then his penal liability under No. 1 depends upon the question if the adulteration was made for the purpose of deceiving, irrespective of the question as to whether or not he has deceived or wished to deceive the direct taker. (Decision of imperial supreme court, January 17, 1881, II, p. 737.)

The addition of a material not belonging to the normal manufacture of beer for the purpose of making it appear to the purchaser to contain more malt than it actually does is an adulteration of the beer, even when the brewer has not been actuated by the object of direct gain or when no depreciation of the quality of the beer has resulted. (Decision of imperial supreme court, November 22, 1882, IV, p. 826.)

The following is from the sentence of the court: "The defendant kept the adulterated wines (without their being marked) in his cellar, where the purchaser went to select the wines which he wished to purchase." This was neither a sale with concealment of the circumstance of adulteration nor an offering for sale under a name calculated to deceive. (Decision of imperial supreme court, February 10, 1881, III, p. 31.)

The addition of parts of plants not suitable for use in the manufacture from suitable parts of the same (tobacco) can be considered an adulteration of the latter if the part added materially lowers the quality of the manufactured product and renders it different from what—from information given or withheld—it is expected to be. (Decision of imperial supreme court, June 4, 1881, III, p. 376.)

The addition of coloring matter to meat wares, even when the coloring is neither injurious to health nor offensive, is an adulteration of the wares if the latter through the former gain the appearance of a better quality than they possess or if the food value of the wares would be lessened to the purchasers in case they knew that the coloring had been used and that

their appearance did not represent the normal character of the wares. (Decision of the imperial supreme court, February 18, 1882, IV, p. 175.)

In changing or omitting important ingredients in an article of food in which, according to local customary nomenclature and belief, those ingredients are necessary counterfeiting, in the sense of section 10, and not merely bad manufacture, is found to be present; besides, the latter would not free the manufacturer from punishment if other provisions of section 10 apply. (Decision of the imperial supreme court, May 15, 1882, IV, p. 485.)

Wheat also belongs to articles of human food in the sense of the general law. (Decision of the imperial supreme court, July 2, 1881, III, p. 456.)

Hops is an article of food in the sense of the article-of-food law. (Decision of the imperial supreme court, July 10, 1882, IV, p. 684.)

The sale of adulterated beer (*verfälschtes Bier*), with the giving of a false place of origin, can be punished as fraud in ideal connection with a violation of the imperial law of May 14, 1879. In this case the penalty is to be applied in accordance with section 263 of the penal code, and the provisions as to publication of sentence of section 16 of the first-mentioned law do not apply. (Decision of the imperial supreme court of March 3, 1884, VI, p. 166.)

The sale of beer under a false name is the representing to orderers of genuine wares what is false in regard to the quality of the wares, and not merely a recommendation concerning the origin of the same. This is irrespective of the questions if the price of the delivered ungenuine wares represented their character or if some of the deceived takers were satisfied with their purchase. The application of section 263 of the penal code is not rendered impossible by the article-of-food law. (Decision of imperial supreme court, September 29, 1883, V, p. 555.)

Also, for the preparation of Bavarian white beer, just as for brown beer, the strict regulation applies that the same can be composed only of hops, malt, and water; and any other materials mixed with the same will be regarded as beer-adulterating materials or as forbidden malt surrogates. (Decision of imperial supreme court, March 31, 1884, VI, p. 249.)

It is not an error of law when, in the addition of impure grape sugar to beer, an adulteration of an article of drink (*Genussmittel*) is found. (Decision of imperial supreme court, March 4, 1884, VI, p. 170.)

Beet sugar is not an imitation (counterfeit) of Indian sugar, except when the method of manufacture employed has the object in view of making beet sugar appear as Indian sugar. (Decision of imperial supreme court, July 14, 1881, III, p. 486.)

The sale of artificial wine to a wholesale dealer, who should not be deceived, and was not deceived, in regard to the nature of the article through the designation chosen for it, is not such a sale as is meant in section 10, No. 2, of the article-of-food law of May 14, 1879. (Decision of the imperial supreme court, May 4, 1883, V, p. 315.)

NOTES TO SECTION 11.

(1) In section 367, No. 7, of the penal code a penalty of fine not exceeding 156 marks or imprisonment is fixed for "whoever sells or keeps in stock adulterated or spoiled drinks or articles of food." In accordance with the imperial law of May 14, 1879, whoever does this knowingly is liable to the severer penalties of section 10; whoever does it from negligence is liable to the same penalties as those fixed in section 367 of the penal code. It might appear as if the latter provision is a modification of the penal law, in so far as section 367 does not require that negligence should be proved. As, however, in section 367, No. 7, the cases in which the culprit acts knowingly are not distinguished from the others, there was no necessity of special mention of negligence. The courts have decided that the penal provision does not apply when circumstances indicate that there was no negligence (see decision of the upper tribunal of January 15, 1874, and December 15, 1875; Oppenhof 15, p. 30; 16, p. 797; decision of the supreme court at Munich, November 3, 1873; Stenglein Journal for Court Practice, 3, p. 237; decision of the upper court of appeals at Darmstadt, October 26, 1874; decisions of the Hessian court, 74, II, 81). This legal view is also embodied in the imperial law of May 14, 1879. For, whoever keeps in stock or sells articles of food is bound to inform

himself, and to keep himself informed, in regard to their condition. If he has not done this, or if he has neglected to obtain such knowledge from the experts, he can not escape from the charge of negligence in the matter. Ignorance due to negligence is no protection, and this is beyond question the case where the accused has not observed the positive provisions of police orders and regulations on the subject.

(2) An edible is spoiled if at the time of sale and being in stock the spoiling has commenced, and the sale and keeping in stock of the same remains punishable even if at the moment of use the article no longer bears the marks of such spoiling.

(3) By section 11 of the imperial law of May 14, 1879, section 376, No. 7, of the penal code—even so far as it treats of acts of negligence—is not superseded. (Decision of imperial supreme court, May 9, 1882, IV, p. 451.)

NOTES TO SECTIONS 12 AND 13.

(1) These penal provisions are supplementary to that of section 324 of the penal code. The latter was insufficient in the following points:

(*a*) It was not enough to take into consideration only such stuffs as were capable of destroying human health and not those which were capable of injuring the same (*e. g.*, to knowingly sell meat containing trichinæ, whose injurious influence on health is generally known, was threatened by section 367, No. 7, only with incommensurate penalties, and from its general dangerousness the imposition of heavier penalties was necessary). To cover this point the law in section 12 provides for milder, and in section 13 for severer, cases.

(*b*) The deciding weight is not to be laid on the point if the added material is dangerous to health, but on the point if the whole, arising from the mixture, possesses this quality. It also makes no difference if the dangerousness to health of the article produced arises from the mixing in of another material or from other causes, especially from the method of manufacture and the processes connected therewith. Finally, in the conviction of a person who keeps in stock, sells, or otherwise places upon the market an article dangerous to health it makes no difference if the danger to health arises from a human action or from the internal deterioration of the article.

(*c*) The destination for public sale or use is not a necessary condition of penal liability. The same penalties apply in the case of sale by house peddling.

(*d*) In accordance with section 324 of the penal code, the sale, etc., of the things there mentioned is punishable only when the culprit conceals their character. In order to render possible the punishment of manufacturers and wholesale dealers, sections 12 and 13 of this law do not admit this condition of penal liability.

(*e*) In their subjective condition the principles of section 324 of the penal code are retained. If sections 12 and 13 require an intentional act, it is implied therein that the culprit must have known, in case of section 12, the health-endangering, and, in case of section 13, the health-destroying, quality of article produced.

(2) In the cases of section 12, No. 1, it depends on whether the use of such articles for food or drink is dangerous to health, and, further, whether the articles were kept in stock, sold, or otherwise placed on the market as articles of food or drink. Whoever sells spoiled flour as food for cattle or spoiled butter as wagon grease does not violate the law.

NOTES TO SECTION 12.

(1) The law requires only the intention of the seller to bring upon the market an edible dangerous to health as an article of human food, but does not inquire into the intention of the purchaser or even require the completion of the purchase of the article as human food. (Decision of the imperial supreme court, January 25, 1882, IV, p. 67.)

Section 12 of the law has for its presupposition that the article of food or drink is dangerous to human health and has been placed upon the market as an article of human food or drink. (Decision of the imperial supreme court, March 7, 1882, IV, p. 231.)

As a subjective condition of section 12, No. 1, of the law a knowledge of the fact that the article of food is dangerous to health is necessary. (Decision of the imperial supreme court, January 26, 1882, IV, p. 76.)

An attempt to sell can also be found in the keeping, for shop exhibition, of spoiled meat. (Decision of the imperial supreme court, November 1, 1881, III, p. 671.)

The informing of the purchaser concerning the health-endangering character of an article of food does not necessarily put an end to penal responsibility. The fact of sale of dangerous food material as such must be proven. (Decision of imperial supreme court, January 4, 1882, IV, p. 10.)

An article of food which is capable of injuring human health is not only one made dangerous through the addition of materials in themselves not dangerous, but also one in which materials originally dangerous are prepared and finished for human food.

The meaning of the expression "to place upon the market" (*Inverkehrbringen*) in the sense of the article-of-food law extends also to a case where the dangerous article, instead of being sold, is used in one's own family as food for members of the same. (Decision of imperial supreme court, October 27, 1882, IV, p. 768, and May 8, 1882, IV, p. 449.)

By "placing upon the market" articles of food dangerous to health is to be understood every transfer of the same to another person, either with or without payment, and also the giving away of the same. (Decision of imperial German supreme court, December 13, 1880, II, p. 633.)

The mere loathsomeness of an article of food or drink is not sufficient to characterize the same as spoiled (*verdorben*). (Decision of imperial supreme court, May 5, 1882, IV, p. 431.)

A fruit liquor colored with fuchsine can, without an error of law, be considered an unadulterated drink if it can be proved that through the adulteration (*Fälschung*) the wares have not been injured nor the appearance of having a higher percentage of fruit in their composition (and consequently a higher value) given. (Decision of imperial supreme court, May 26, 1882, IV, p. 519.)

The applicability of section 12 is not limited by the fact that through the ordinary method of preparation, *e. g.*, through cooking, the dangerous quality is removed. (Decision of imperial supreme court, February 26, 1884, VI, p. 157.)

The sale of unripe fruit which is suitable for use only in cooked condition, with the intention of selling only for the purpose of cooking, *i. e.*, when the purchaser is informed of the necessity of cooking, is not punishable. (Decision of imperial supreme court, June 4, 1881, III, p. 373.)

(2) In section 12, No. 2, colors (section 1) are omitted, because, even though under certain circumstances they may have an effect injurious to health, under other circumstances, *e. g.* for painting a garden fence, they can be used without hesitation, and accordingly a penalty can not be placed on their manufacture and sale. Moreover, with the articles mentioned in section 12, No. 2, the provision applies only in case that that use is dangerous to health for which they are intended, or which, according to the nature of the thing, is to be expected. The latter alternative specially applies to toys.

NOTE TO SECTION 13.

This penal provision strengthens the penalties of section 324 of the penal code in so far as it makes a penal liability not dependent upon an actual injury arising from use of the dangerous article. When there is doubt how, in certain cases, when the applicability of section 14 or of sections 12 and 13 depends upon the fact of carelessness, the law should be applied, the decision depends upon how far negligence stands in causal connection with the resulting injury or death. (See also notes to section 11.)

NOTE TO SECTION 14.

Negligence in the sale of articles of food dangerous to health attaches not only when it is shown that the defendant could easily have informed himself concerning the dangerous char-

acter of the food article; it is further held that the defendant was bound *in concreto* to so inform himself. (Decision of imperial supreme court, October 10, 1881, III, p. 622.)

The law has not simply and unconditionally fixed the penalties of section 14 to the sale, etc., of materials dangerous to health when the defendant, before placing the same upon the market, has neglected to have them examined by experts. Rather must this omission be considered as a nonapplication of the care which is required as an obligation in individual cases. (Decision of imperial supreme court, March 27, 1882, IV, p. 282.)

Notwithstanding the lack of a police regulation commanding the examination of swine flesh on account of trichinæ, the sale of meat containing trichinæ without such examination is not exempt from punishment. (Decision of imperial supreme court of January 15, 1882, IV, p. 165.)

NOTE TO SECTION 15.

(1) It must not be understood from the second paragraph of section 15 that the confiscation of articles dangerous to health is permitted *ipso facto* and without regard to the guilt (intentional or negligent) of a particular person. (Decision of imperial supreme court of December 21, 1882, IV, p. 886.)

(2) If in the cases of section 16, paragraphs 1 and 2, of the article-of-food law the prosecution or conviction of a particular person is impracticable, then recourse can not be had to confiscation of the counterfeit or adulterated articles of food. The general provisions of sections 40–42 of the penal code are not applicable to the article-of-food law, and in this special law the confiscation is fully regulated by section 15. (Decision of imperial supreme court of May 11, 1882, IV, p. 473.)

(3) Police officers, to whom supervision of the market trade is confided, are empowered to sequester market articles which appear capable of injuring the public, and such sequestration can be accomplished verbally. (Decision of imperial supreme court, October 23, 1883, V, p. 637.)

NOTES TO SECTION 16.

(1) As in cases covered by sections 165 and 200 of the penal code, the publication of judgment has not the character of additional punishment in a proper sense; it is rather a proclamation of sentence intended as a public warning. The ordering of publication through a police penal decision is not permitted.

(2) The imperial law of May 14, 1879, has not repealed section 367, 7, of the penal code. (Decision of imperial court, February 11, 1882, IV, p. 149.)

NOTE TO SECTION 17.

The fines arising from police condemnations usually flow into the treasuries of the districts bearing the expenses of such local police departments. There was therefore no ground for taking away these fine moneys from the communes, and especially the smaller ones.

APPENDIXES TO THE IMPERIAL LAW OF MAY 14, 1879.

[Inclosure 2 in Consul-General Edwards's report.—Translation.]

APPENDIX A.

CHIEF PART OF MATERIAL PREPARED BY THE IMPERIAL HEALTH OFFICE AS A BASIS FOR THE IMPERIAL LAW OF MAY 14, 1879.

I.—Flour.

Under the term flour (*Mehl*) is to be understood preparations, by the grinding process, of the kernel of different sorts of grain.

The following materials have been used for adulterating flour:

(*a*) The flour of peas, lentils, beans, Indian corn, and potatoes. These are not to be regarded as dangerous to health, but as intended to deceive and calculated to diminish the value.

(*b*) Gypsum, cawk, chalk, carbonate of magnesia, and other mineral substances whose influence, under certain circumstances, is injurious to health.

(*c*) Alum, copper vitriol, and similar metal salts which, in the preparation of bread, are exceedingly dangerous to health. In like manner the coloring of soup noodles with picric acid, instead of egg yellow or saffron, is inadmissible. All of these adulterating materials can be easily and safely detected.

II.—Conditors' wares.

Conditors' wares are adulterated with many sorts of heavy mineral substances. With certain such alloys, by baking, components dangerous to health can be introduced, as is also the case with subsequently added ornamentations. Confectioneries, such as bonbons and the like, are frequently made of dyed sugars, in whose preparation poisonous colors have been used. The same is the case with plastic imitations of all sorts. With these articles mineral powder is also used as a fraudulent alloy.

Jellies, fruit juices, and lemonades are artificially imitated with sugar, acids, spices, dyes, and essences; such preparations have very small value. Liqueurs, pastils, and dragées are frequently adulterated or in part manufactured in a manner injurious to health.

Cases of poisoning after the eating of pastries and ices have been known.

For the packing of many conditors' wares materials finished with poisonous colors are often used, and in this way cases of poisoning have been caused.

These adulterations and mixtures dangerous to health are capable of being easily detected.

III.—Sugar.

Under the term sugar is to be understood only crystalline cane sugar made either from sugar cane or sugar beets.

With sugar made from beets the molasses is marked by a disagreeable smell and a high percentage of component salts and is dangerous to health; this is not the case with colonial sugar made from pure juice. Sugar from beets should be free of molasses or, at any rate, contain a very small percentage thereof.

Refined sugars, especially those made from beet sugar, contain, in order to take away their yellow tint, a small quantity of ultramarine, which is not to be considered as injurious.

An ordinary adulterating material for the sirup offered for sale (molasses from sugar cane) is starch sugar. Further information in regard to this material is given under the heading "Beer."

The chemical demonstration of the adulteration is not difficult and is sure.

IV.—Meat sausage.

As dangerous to health are to be regarded:

(1) The meat of animals which have died from natural causes.

(2) The meat of animals infected with madness (*Wuthkrankeiten*), glanders (*Rotzkrankeiten*), distemper (*Milzbrand*), or similar diseases with burning inflammation of the internal organs or of external parts of the body.

(3) The meat of animals slaughtered in diseased condition after typhoid (*typhöse*) symptoms and great loss of flesh have already shown themselves.

(4) The meat of animals which were suffering from poisoning or which were given shortly before slaughter poisonous substances in large quantities.

(5) Pimpled (*finniges*) meat or meat containing trichinae, as well as the meat of animals which were in a high degree infected with scrofula or tuberculosis.

(6) Meat in high degree spoiled.

The value of meat is much lessened, without always becoming dangerous to health, in the following cases:

(1) Through feverish diseases, as well as through internal chronic diseases, causing a wasting away of flesh.

(2) The food value of meat of so-called "unripe" (*unreif*) calves, *i. e.*, calves less than 8 to 10 days old, is small.

(3) The food value of sausage is diminished by the addition of flour paste (*Mehlkleister*).

(4) Horse meat is said to be very frequently sold as beef in order to obtain a higher price than its real value warrants.

As the recognition of these diseases which give to meat qualities dangerous to health, as well as the determining of the dangerous character of the meat, is difficult after slaughter, there appears to be a necessity for the requirement of obligatory meat inspection by experts wherever it is possible.

In the instructions to meat inspectors should be given a description of the signs marking the presence of dangerous qualities in meat (due to disease or spoiling), as well as of the signs of depreciated food value.

Where meat inspection is not obligatory, the slaughter of sick animals without an examination of the same before and after slaughter by experts (veterinary physicians, meat inspectors) should at least be forbidden.

V.—Milk.

With no other food article has depreciation of value or adulteration before sale been so frequently observed as with milk.

The most common forms of the same are:

(*a*) Skimming. Skimmed milk lacks, in greater or smaller degree, the fat of natural, full milk, and consequently one of its most valuable components. It must therefore be considered as depreciated in value and unfit for the nourishment of sucklings.

(*b*) Thinning. To full milk, and often to skimmed milk, water is added in more or less noticeable quantities, and in this way the food value of such milk is more or less affected.

(*c*) The addition of foreign stuffs (starch paste, starch, chalk, gypsum, wheat flour, etc.) is less often observed, and happens usually to conceal a previous thinning of the milk by restoring it to its normal opaque and dense condition. Such milk is unfit for nourishing purposes and is injurious. The mixing of milk with such substances, as well as the addition of acid-absorbing materials to milk which has become sour, fits the same for more rapid decay and can also produce effects injurious to health.

The sale of such milk as full milk should not be permitted. In like manner milk of bad quality is dangerous and unfit for human food, *e. g.*, milk originally watery, sour, slimy, bitter, red, or blue, and also milk, apparently normal, taken from cows suffering from certain diseases, *e. g.*, infectious diseases.

VI.—Butter.

(1) The increasing of the weight of butter through the addition of foreign materials is inadmissible.

(2) Artificial butter made of tallow, and also butter mixed with other fats, should be admitted to the market only under a name properly describing it.

VII.—Beer.

Under the term "beer" is to be understood only drinks composed of malt (barley), hops, beer yeast, and water, produced through vinous fermentation without distillation, and still in a certain stadium of after fermentation. All other similar drinks produced from other materials can only be sold under other names designating the difference, *e. g.*, rice beer.

It is to be recommended that the materials should be fixed by law which may be used as spices in the manufacture of certain local beers, shown by their names to be such (white beer, Broyhan, and the like). In many breweries various surrogates are used. As surrogates for components of malt may be mentioned starch, starch sugar, and glycerine. The fact of the use of starch sugar, which at present comes into trade in very impure condition, being dangerous to health must be proved by further experience. The use of glycerine in brewing should also be forbidden.

All three surrogates—starch, starch sugar, and glycerine—as substances free of nitrogen, force to the top the flocculent matter contained in the beer and thus disturb the natural composition of the beer. Hop surrogates, on account of their inefficiency as substitutes and in view of their possible dangerousness, should never be used.

Recommendations of stuffs such as glycerine and the like for beer-brewing by dealers should not be permitted.

Materials for dyeing beer, such as *couleur*, etc., while not dangerous to health, are calculated to give to the beer an appearance better than its character warrants. As clearing materials, nothing can be said against shavings (hazel and white beech), fish glue, isinglass, and tannin. As means of conserving bottled beer, the Pasteur process is to be recommended, and is sufficient. For barreled beer, recently, salicylic acid and acid sulphite of calcium have been used; if these, by continued use, are dangerous to health, wider experience must show. A beer which is to be in full measure advantageous to the health of the consumer must not depart too far from a certain relation approaching equilibrium between alcohol and extract. In extract the relation between flocculent matter, hydrates (*Kohlen-hydraten*), and salts should be such as in the proper brewing process is produced from the barley.

Every high degree of acid contents is objectionable. The materials added to beer as hop surrogates can not yet all be absolutely determined.

VIII.—Wine.

(1) The term "wine" must be used only to represent a drink prepared, through alcoholic fermentation, from grape juice without any addition.

(2) The manufacture of wine in accordance with the methods known as Chaftal's, Gall's, and Petiol's is allowed, but only under the condition that a wine so prepared shall not be represented as a natural wine and that upon sale it is given a distinguishing name which clearly shows the process by which the wine has been produced. The use of a dangerous material containing starch sugar in Chaftal's, Gall's, and Petiol's processes is inadmissible. The chemical detection of "Chaftalizine," etc., can be directly reached only when impure materials containing starch sugar have been used. If pure starch or cane sugar has been used, this can be proved only indirectly and not always with certainty.

(3) The changing of white wine into red by means of coloring materials is to be regarded as a transaction whose object is the sale of the wine under a name which does not represent its true character. By the use of injurious coloring materials the transaction becomes one implying danger to health. The fact of coloring with dyestuffs can be demonstrated.

(4) The alteration of wine with ethers, perfumed essences, glycerine, and similar materials intended to give to the wine the appearance of a better character than it really possesses is inadmissible. By using injurious materials such manipulations become dangerous to health. The proof of the presence of such materials is usually possible.

(5) The alteration of must or wine with gypsum, alum, or lead salts is dangerous to health. The fact of such alteration can be easily proved.

(6) For preserving wine the Pasteur system is to be recommended. The addition of sulphurous acid through the burning out of barrels with sulphur is to be permitted only in limited measure and with the use of sulphur free from arsenic. (In regard to the use of salicylic acid see "Beer.")

(7) Liquids which have formerly been known in trade as wine, produced by the mixture of water with spirit of wine, sugar, tartar, ethers, perfumed essences (*riechende Essenzen*), etc., must not be sold as wine, but only under names marking the difference, even if they contain some wine.

IX.—Coffee and tea.

(1) The mixing of coffee beans or parched and ground coffee with sand, clay beans, chicory, used coffee grains, burnt grains, and other burnt roots and seeds is not dangerous to health, but it depreciates the value of the wares.

(2) The dyeing of coffee beans is often dangerous to health, and is, at any rate, calculated to give the wares the appearance of a better quality than they possess.

(3) The dyeing of tea leaves and the dusting of the same with talc, soapstone, gypsum, etc., is, under certain circumstances, dangerous to health, and is always intended to give the wares a deceptive appearance.

(4) The sale of used tea leaves as unused or the sale of leaves of other plants as tea is to be regarded as the sale of wares under a name which does not represent their true character.

(5) The packing of tea in lead foil or in tin foil containing much lead is dangerous to health.

(6) The fact of the mentioned mixtures or dyeings is always susceptible of proof.

X.—Chocolate.

(1) Under the term chocolate is to be understood only a manufacture which is prepared from the completely shelled cacao bean, with the addition of sugar and various spices.

(2) The attempt is made to produce poorer sorts of chocolate by adding to the above-mentioned materials starch, flour, mutton fat, sesame oil, shells of cacao beans, etc. From a hygienic standpoint no objection can be raised to this, but, through a special designation, the purchaser should be made aware of the true character of the wares.

(3) Chocolate, however, is also manufactured which contains carbonate of lime, ocher, and other similar indigestible and even dangerous materials. Such additions are to be considered as inadmissible.

(4) Some of the additional materials mentioned under 2 are difficult, while those mentioned under 3 are easy, of detection.

XI.—Artificial mineral waters, etc.

(1) Artificial mineral waters contain various ingredients, in accordance with the nature of the natural waters which they imitate. Many, and especially those known to the trade as soda and seltzer waters, are simply solutions of carbonic acid mixed with small quantities of cooking salt or soda in distilled or spring water. Lemonade (*limonade gazeuse*) is a solution, saturated under pressure with carbonic acid, of tartaric or citric acid in water.

(2) Artificial mineral waters, as well as the above-mentioned lemonade, can be rendered impure through—

(*a*) Arsenic and other mineral acids (muriatic acid, sulphuric acid, etc.), in consequence of careless manufacture, arising from materials used for evolving carbonic acid.

(*b*) Copper and lead, from the imperfect character of the vessels used for evolution and preservation.

(*c*) Unhealthy materials in impure water, when such impure water is used in the manufacture.

(3) All of these impurities can be detected by chemical analysis; those mentioned under *a* and *b* with greater ease; those under *c* with more difficulty, but still with sufficient accuracy.

(4) It is not proper to place on the market artificial mineral waters or lemonade containing the above-mentioned impurities.

(5) Whoever sells artificial mineral waters as natural deceives the purchaser in regard to the quality of the water.

XII.—Various articles of use.

It is well known that off and on diseases have been induced by the wearing of dress goods which were either dyed with poisonous colors or in the finishing process (*Appretur*) impregnated with substances dangerous to health. Hereby the chief fact of importance is that very often, especially for the fixing of aniline colors to textiles, a certain amount of argillaceous earth, or native ferric oxide, containing arsenious acid, is added to the regular *Appretur*, or finishing mass. In like manner arsenic is being used more and more in ball dresses, artificial flowers, etc.

Many sorts of wool are dyed with inorganic and organic coloring materials which are injurious to the skin, and which, when they come in contact with the skin, cause local inflammations.

Many colored papers, wall papers, etc., which are placed upon the market do not at all satisfy hygienic requirements. Many papers contain copper, lead, and arsenic compounds. The latter is usually due to the fact that old colored paper waste is used in the manufacture of the wares. The same applies, also, to blank visiting cards, which frequently contain white lead (often, also, oxide of zinc).

The quantity of injurious metal compounds found in paper is, it is true, usually small; but, nevertheless, there are circumstances where they can exert an injurious influence.

Special attention should be paid to the use of colored paper as a covering for articles of food. For this purpose the use of paper dyed either in the mass or in the product with dangerous colors is to be avoided.

In trade are also to be found green lamp shades and flowerpot covers which contain arsenic; also, paper seals containing arsenic are known to exist. Fly paper containing arsenic is also very much used. In Prussia this must have printed upon it the well-known poison mark, and can be sold by apothecaries only with a poison certificate. If these precautions guaranty sufficient protection against disaster has not been decided.

It is also desirable that for the so-called paper linen (*Wäsche*)—collars, cuffs, etc.—only non-injurious materials should be used. Special attention should be given to wall paper and window curtains, which frequently contain very much arsenic. The injurious influence of the same is due not only to the impregnation of the air with arsenic particles, but also to the continual formation of arseniureted hydrogen, one of the gases most dangerous to health. The presence of arsenic is indicated not only by a green color, but it may be found in every possible color. The green arsenic (Schweinfurt green) color is especially suited for use as a subcolor, because it looks well. Wall paper thus primed is afterwards printed over, in order to give it the appearance of healthfulness, with dull green and dull yellow colors. Dark red wall paper also often contains much arsenic.

These poisonous colors are so much the more to be avoided, as the science of technics is rich in harmless colors which really surpass them in coloring force. As, however, it is possible for arsenic in minute quantities to appear as an unintentional impurity, the permitted limit to its presence as an ingredient should be fixed by law. Children's toys deserve special attention. In spite of repeated police prohibitions, toys are still often painted with dangerous colors. The danger is still more increased by the fact that with the least moistening the color loses its hold on the painted article.

Special attention is called to the fact that there are many paint boxes containing poisonous mineral paints which, owing to their cheapness, have a wide sale. This fact gains in importance when it is remembered that children usually wet the pencil with spittle instead of water, and accordingly place the paint-soaked pencil between their lips. Frequently, also, poisonous colors are found in dolls' dresses, especially arsenite of copper and Schweinfurt green. According to the Austrian sanitary law, preparations and colors which contain arsenic, antimony, lead, copper, cadmium, cobalt, nickel, quicksilver (with the exception of cinnabar), zinc, and gamboge can not be used for dyeing or painting children's toys. In the manufacture of crockery and metal utensils for household use glazing and enamels are used. These are frequently composed of materials containing lead. When properly manufactured, the glazing and enamel resist any dissolving influences of thinned acids or other substances with which they come into contact in use. On the contrary, however, in improper manufacture lead is often unhesitatingly used. As a matter of fact, lead-poisoning has resulted from the use of glazed or enameled vessels. Furthermore, it is possible to produce durable glazing and enamel without the aid of lead. The use of copper vessels not enameled or badly tinned is exceedingly dangerous, especially when, in the preparation of food therein, an acid (*e.g.*, vinegar) is to be used, as in this case a dissolution of copper is easily caused. The metal used for tinning often contains lead, a circumstance which, through the mixing of lead in the food, can injure health.

It is therefore advisable to decrease the use of copper or brass untinned cooking utensils, and, in cases where tinned vessels can not be used, to recommend the use of iron or porcelain utensils. As material for mortars iron or stoneware is preferable.

The composition known as Britannia metal has, with the course of time, not always been confined to its former components, tin and antimony, but now often contains lead. In view of the widespread use of this metal in the manufacture of household articles, its influence deserves consideration. Articles of this kind are sold at low prices, chiefly at market fairs. The same remarks also apply to an alloy consisting of lead and tin (in which the percentage of tin is sometimes only 50 and rarely more than 60) which is used in the Rhine Province and in Westphalia for the manufacture of coffeepots, plates, spoons, etc. Tin utensils, especially plates and coffee spoons, are often, in order to give them a better appearance, painted with metal colors which only on the surface are fixed with lacquer, which soon wears off with use. Such articles are used especially in Bavaria. Green bread baskets and other articles are often painted with Schweinfurt green and should consequently be banished from the kitchen.

All articles intended for sale for household or other use should be carefully examined from a sanitary standpoint. Above all things it appears necessary that it should be fixed by law what sort of utensils are to be shut out of the market on account of their being dangerous to health. Especially should it be determined, by proper experiments, to what extent tin utensils and tinned articles can contain lead without becoming dangerous to health.

APPENDIX B.

CIRCULAR OF THE PRUSSIAN MINISTERS OF THE INTERIOR, FOR AGRICULTURE, AND OF CULTURE TO THE ROYAL OVER-PRESIDENTS IN REGARD TO THE MILK TRADE, JANUARY 28, 1884.

[From the Ministerial Newspaper, p. 23.]

An expert commission was appointed to investigate the question put by the imperial chancellor if, and how far, the milk trade could be made the object of a general regulation for the Empire, based upon the article-of-food law of March 14, 1879 (Imperial Law Newspaper, p. 145). The committee has presented the result of its deliberations in a report entitled "Technical material for an imperial order concerning the police control of milk."

We have to inform you that an examination of the report of the above-mentioned committee shows the impossibility of finding a general milk-inspection process suited for the practical use of police officials. If it be taken into consideration that, according to the report of the commission, general requirements in regard to market milk can not be fixed for the entire Empire, because the constitution of milk is different in different cattle races and because, also, cattle food differs very much with locality, it will be seen that uniform police regulations can not be everywhere enforced.

Consideration must also be given to the proposal of the commission that a minimum value be fixed for the component parts of milk (full milk), whose increase by the state governments shall be permitted.

To this there are two objections: First, it is doubtful if the power of proclamation given by the imperial law expressly to the Emperor and federal council can by these two factors be lawfully delegated to the separate governments; second, it appears improper to empower the separate governments, within their territorial limits, by increasing the requirements in regard to its character, to designate as of under value milk which, in accordance with imperial regulations, should be treated as of full value.

For the above reasons it appears necessary to abandon the idea of an uniform system of milk inspection for the whole German Empire. In like manner the uniform regulation of this matter for the Prussian state is equally undesirable. The question of milk inspection should be left to the township authorities or to the police, especially as the necessity for such control has presented itself only in the larger towns and can be satisfactorily treated only by means of taking local conditions into consideration.

From a practical standpoint in this matter the fixing of the specific weight comes next in question. In regard to this, we beg to remark that this form of examination is practicable in connection with police control of market milk, while the fixing of the amount of cream or fat contained, or a still more extensive examination, requires more time and can be carried out only under special circumstances.

What principles are necessary for the execution of milk control we have presented in the accompanying inclosure, and have at the same time emphasized the importance of the treatment of milk by the producer or seller in a manner favorable to sanitary police interests, so that the general points of value (ascertained partly from the report of the committee and partly from experience) shall be noted, in order that they can be used as guides in a possible subsequent issuance of police regulations on the subject.

We request you to advise the governmental officials of the province to take care that the foregoing points are observed if in the districts under their supervision police regulations concerning the milk trade are issued for single towns or country districts.

INCLOSURE CONCERNING THE REGULATION OF THE MILK TRADE.

A.—Treatment of the milk on the part of the producer and seller.

(1) Through sufficient cooling and cooling conveniences everything possible is to be done so that the milk will sour neither before being sent to market nor during the transport.

(2) The keeping of milk in vessels from which they can obtain foreign stuffs (vessels of copper, brass, or zinc, pottery vessels with bad glazing, cast-iron vessels with enamel containing lead) is to be forbidden.

(3) If, in the house of the milk producer or seller or in its neighborhood, there exists a contagious disease, it is to be remembered that the transmission of contagious matter in milk is possible. Persons who come in contact with such sick persons must have nothing to do with the milk. All rooms intended to be used for storing milk must always be carefully cleaned and aired, and they must be at a certain distance from sleeping and sick rooms.

The same regulations apply to shops where milk is sold, where it is furthermore recommended that vessels containing milk should be kept, not open, but closed.

(4) Also, in cleaning milk cans contagious matter may be conveyed to the milk when impure or infected water is used. The safest method of cleaning milk cans is by means of steam, *i. e.*, by means of hot-water steam and subsequent drying with a towel.

(5) In order that the contents of the separate milk cans shall be of one character, a thorough mixing of the quality of the milk intended for sale should take place before the filling of the transport cans or vessels.

As transport cans only well-made wooden or tinned-plate cans can be used. The exterior spigots on closed milk wagons must be of well-tinned copper or brass.

B.—Police control of milk.

(6) Before taking a sample of the milk to be examined, the contents of the milk can in question are first to be thoroughly mixed. Afterwards the milk is to be examined in regard to its appearance, color, smell, and taste, and then the specific weight is to be obtained by means of a lactodensimeter. For a judgment of the milk that specific weight is to be taken which it has at a temperature of 15° C. It is therefore necessary, for obtaining the specific weight, to observe the milk temperature by means of a Celsius thermometer, and to make the proper reduction as to what the weight would have been at 15° by means of a reduction table provided for the purpose in connection with the lactodensimeter. The results of the fixing of the specific weight are so much the more exact the less the temperature degree differs from that for which the instrument is adapted. In order to obtain the most accurate result possible, the lactodensimeter must remain floating in the milk for at least 2 minutes. It must also be borne in mind that absolutely fresh milk, in the fixing of the specific weight, gives figures which are from 0.5° to 1° smaller than those observed in the same milk after it has stood for some time

(even after 3 hours). The police authorities should have all lactodensimeters inspected by experts, to secure their correctness. Therefore, a periodical examination of the accuracy of these inspected instruments is to be made.

The fixing of specific weight gains in value when with a full unskimmed milk the average degree of the same for that district has previously been ascertained and when allowance is made for the criteria of a normal milk from outward appearances. For instance, a very fat milk can show a specific weight falling under the extreme limit, but it can not be condemned if its other qualities bespeak its good character. On the other hand, a thin, watery milk, through a specific weight bordering upon the utmost limit, at once raises the suspicion of water having been mixed with it.

(7) Adulteration of milk with starch, flour, dextrine, sugar, etc., rarely takes place. The addition of conserving materials—natron carbonate, salicylic acid, boracic acid, or their salts—is worthy of consideration only so far as, when long used, they can have an injurious effect, especially for children, and can easily be misused. Their use should therefore be forbidden. The most common adulterant is water, which is added to full milk, half-skimmed milk, *i.e.*, skimmed evening milk mixed with full morning milk, and more seldom with skimmed milk.

(8) With full, whole milk the specific weight ranges, with the quantity of cream contained, from 1.029° to 1.034°. With half-skimmed milk, owing to the reduced quantity of cream, it is, on the average, about 0.002° higher and ranges, accordingly, between 1.031° and 1.036°. Thin milk entirely skimmed or "centrifuged" has a more or less bluish appearance and exhibits, according to the thoroughness of skimming, a weight from 0.003° to 0.005° higher than full milk. It ranges from 1.032° to 1.037° and is, on the average, 1.0345°. Accordingly, the specific weight alone can not always with safety decide the constitution of the milk. In order, for instance, to distinguish full from skimmed milk, to find the amount of cream contained requires intelligent executive officers or special experts, as the examination demands care and time. For this purpose Chevallier's cremometer is used, a cylindrical glass vessel 20 centimetres high and 4 centimetres in diameter, which, from its zero point, which is at a height of 15 centimetres, is divided upwards into 100 equal parts. This vessel is then to be slowly filled up to the beginning of the grading with milk which it is desired to examine. Then it is to be allowed to stand undisturbed for 24 hours exposed, as nearly as possible, to a temperature of 15° C. If during this time the cream has risen, with the help of the scale, the direct volume percentage can be measured. Hereupon the specific weight of the milk remaining under the cream stratum is to be ascertained, in order to compare the thus obtained lactodensimeter degree with that obtained before the removal of the cream. Generally with full, whole milk a cream stratum of from 10 to 14 volume per cent. is formed; with half-skimmed, from 6 to 8; while the milk under the cream stratum has a specific weight of 2½° to 3½° with full milk, from 1½° to 2° with half-skimmed milk, higher than before the removal of the cream. If with full milk this difference amounts to less than 2°, the addition of water has been proved. If the lactodensimeter degrees before and after skimming are in correct relation, but the cream stratum shows less than 10 volume per cent., the mixing in of half-skimmed milk can be accepted as a fact. If the lactodensimeter degrees with half-skimmed milk are in correct relation to each other before and after skimming, but the cream stratum shows less than 6 volume per cent., an addition of entirely skimmed milk has taken place. If, however, the lactodensimeter degrees are the same, water has been added.

The official method of measuring the fat, so far as its use by persons not experts is concerned, is unsatisfactory and can not be relied on.

Of equally small use for the control of market trade are the apparatus which require the production of an ether-fat solution.

(9) It will be the duty of the market police, not only to do everything possible to prevent the adulteration of milk with water, but also to strive to drive bad milk from the market, and, so far as local conditions permit, to fix the average specific weight for full milk, for half-skimmed milk, and for skimmed milk. Skimmed milk (*Magermilch*), *i. e.*, entirely skimmed, "centrifuged" milk, can not be entirely shut out from the market; only for the nourishment of

children is it entirely unfit. For household and industrial purposes, however, it can be used. In order to prevent fraud, the seller should be compelled by the police to designate distinctly as such the different sorts of milk (full milk, half-skimmed milk, skimmed milk), and to mark the milk cans intended therefor by a clear inscription incapable of being removed. Where closed milk wagons are used, these inscriptions should be placed over the respective spigots.

(10) Dangerous to health is bitter, slimy, blue, or red milk, as well as the milk of cows suffering from hoof and mouth diseases, diseases of the udder, inflammation of the womb, diarrhea, poisoning, madness, etc., and especially when medicine is used. The so-called biestings (colostrum milk), which is obtained shortly before or after the birth of a calf, is also dangerous to health. As well in the quantity as in the character of its separate components it varies considerably from normal milk. As it easily disturbs the process of digestion, especially with children, its sale within the first 3 to 5 days after the birth of a calf should not be permitted.

C.—Final decisive control.

(11) After the special examination has been made in regard to the presence of conserving materials or additions of flour, starch, etc., for the purpose of thickening thin, skimmed milk, the principal thing will be the ascertainment of the milk constituents if, in doubtful cases, the indirect fixing of the value of the milk according to its specific weight is not satisfactory. The expert intrusted with control in the laboratory must next repeat the examination made at the place of sale, in order to determine the specific weight and the percentage of cream contained.

The weight percentage of fat and of dry substance is next to be ascertained.

In full, whole milk the butter fat is, on an average, 3.30 per cent.; the lowest limit is 2.4 per cent. As a rule, half-skimmed milk contains half so much fat as whole, full milk, usually about 1.5 per cent. In entirely skimmed milk, where the cream is obtained by allowing the milk to stand, the average amount of fat contained is 0.7 per cent., while in "centrifuged," thin milk (*Magermilch*) it is only 0.3 per cent. Of the various methods of ascertaining the amount of fat contained in doubtful cases, the best is the weight-analytic method.

The dry substance in full, whole milk, on an average, amounts to 12.25 per cent. and ranges between 11 and 14 per cent. Sanitary police should never permit milk to be placed upon the market if it contains less than 10.9 per cent. of dry substance. With half-skimmed milk the amount of dry substance is from 1½ to 2 per cent. less, in consequence of the loss of cream. In thin milk the dry substance should be, *in minimo*, 9 per cent. It is very desirable that the experts intrusted with control in the laboratory shall at the same time be required to instruct and, by examination, watch over the competency of persons appointed to exercise police control of market milk.

D.—The stall test.

(12) By "stall test" is meant the investigation through carefully milking the cow or cows used for producing market milk, mixing together the milk thus obtained, and comparing the same with the suspected milk. This test should be made within at most 3 days after the suspected milking in the presence of the officer intrusted with the control of market milk at the same time of the day as that at which the suspected milking took place. The official examination of the milk sample obtained in this way from the producer's stall is necessary if the producer claims that the milk is of the same character as that which was placed upon the market. Consequently the stall test applies only to full, whole milk.

The proof of the stall test can be considered as defective when, (*a*) after the milking of the suspected sample a change is shown to have been made in the method of feeding, which notoriously has a bad effect on the milk; (*b*) between the suspected sample and the sample obtained from the stall differences are found which show that the specific weight of the stall sample deviates about 2° from that of the suspected sample; and that (*c*) the fat in the stall sample is 0.3 per cent. higher and the dry substance 1 per cent. higher than in the suspected sample. In doubtful cases a repetition of the stall test can be regarded as necessary.

BERLIN WORKHOUSE AND HOME FOR THE HOMELESS.

REPORT BY CONSUL-GENERAL EDWARDS.

THE MUNICIPAL WORKHOUSE.

In October, 1887, a new municipal home for the homeless was opened in Berlin and placed under the control of special managers, subordinate to the commissioners of the poor, but independent of the directors of the workhouse.

In consequence of this separation, the workhouse—with the exception of its hospitals for males and females—has been restricted to its legitimate purpose as a house of correction and is now used exclusively for the reception of persons who, as punishment for misdemeanors, are sent to the workhouse by police officials.

The sudden great increase in the number of such persons in the year 1882–'83 caused an overfilling of the workhouse. The directors of the institution were therefore obliged to ask the police presidency to limit the number of such sentences as much as possible. The negotiations between the magistracy and the police presidency resulted in the latter agreeing for a period of 2 months to send only such men to the workhouse as had been sentenced by a court to more than 14 days' imprisonment. At the expiration of this period the condition of affairs at the workhouse remained unchanged, and the magistracy was again compelled to request the police presidency to send up for correction only persons against whom a judge had given sentence to the extent of imprisonment for more than 10, or at most 14, days. At the same time, in order to obtain more room in the workhouse, the closing of the hospital was proposed. This, however, could not be done, as all the other municipal hospitals were already filled and the new hospital and infirmary on the Prenzlauer Allee was still far from completion. The police presidency therefore addressed a report to the minister of the interior asking that the courts be instructed to make limited use of this form of sentence until other accommodations had been provided.

This matter thereupon received the earnest attention of the municipal authorities. The building of two new pavilions in the workhouse grounds was objected to because it was feared that, in spite of such additions, the institution would be soon again overcrowded. The municipal authorities then decided to establish labor colonies for such persons, as well during the winter as during the summer, upon all of the municipal irrigated farms where the drainage of the city is utilized, as the experiment already made in 1882 of employing such convicts on the southern farms (Heinersdorf and Neubeeren) had met with favorable results. In May, 1884, therefore, 150,000 marks were appropriated for the erection of houses for 1,000 or 1,200 convicts upon these irrigated farms, and, in addition to this, 50,000 marks from the fund for incidental expenses for the purchase of bedsteads, beds, underclothing, clothing, and household effects. Work was at once begun and so

pressed that at the end of December, 1884, accommodations were ready for 830 convicts, and the erection of barracks for 195 more was under way. By these arrangements the workhouse was relieved. This, moreover, opened new fields of employment for the convicts.

In spite of the removal of such numbers of convicts from the workhouse, it was not found practicable to require each colony to do all its own cooking, as was originally intended. To the southern farms, therefore (Heinersdorf and Neubeeren), as before, the necessary supplies were sent to be prepared in the barrack kitchens, while to the northern farms (Wartenburg, Malchow, Blankenburg, Falkenberg, and Rosenthal-Blankenfelde) dinner was sent in cooked condition from the workhouse kitchen, the morning and evening soups being cooked in the barrack kitchens.

Furthermore, each colony was supplied with double supplies of clothing and underclothing, which were regularly and as often as necessary renewed from the central institution.

This mode of employing convicts has proved eminently successful, and the directors of the workhouse have done their utmost to maintain upon the farms the necessary working force—945 men—by at once sending thither new convicts and by retaining in the workhouse, in addition to the women, only so many men as are absolutely necessary to attend to the work done for the institution and for other municipal departments. In consequence of this relief to the main workhouse—there are at present about 800 convicts on the farms—a part of the building is unused and can be utilized as a reform school for boys.

Table showing the number of convicts in the workhouse,

Year.	Balance from preceding year.			Additions.		
	Male.	Female.	Total.	Male.	Female.	Total.
1881	292	335	627	991	1,082	2,073
1882 and March quarter of 1883	484	296	780	2,120	635	2,755
1883–'84	1,136	296	1,432	2,242	433	2,675
1884–'85	1,428	244	1,672	2,011	309	2,320
1885–'86	1,131	188	1,319	1,912	221	2,133
1886–'87	1,377	142	1,519	1,715	160	1,875
1887–'88	1,259	95	1,354	1,946	247	2,193
1888–'89	1,449	147	1,596	1,691	205	1,896

Year.	Dismissals.			Balance at end of year.		
	Male.	Female.	Total.	Male.	Female.	Total.
1881	799	1,121	1,920	484	296	780
1882 and March quarter of 1883	1,468	635	2,103	1,136	296	1,432
1883–'84	1,950	485	2,435	1,428	244	1,672
1884–'85	2,308	365	2,673	1,131	188	1,319
1885–'86	1,666	267	1,933	1,377	142	1,519
1886–'87	1,833	207	2,040	1,259	95	1,354
1887–'88	1,756	195	1,951	1,449	147	1,596
1888–'89	1,789	225	2,014	1,351	127	1,478

Table showing the number of convicts in the workhouse hospital.

Year.	Balance from preceding year.			Admissions.		
	Male.	Female.	Total.	Male.	Female.	Total.
1881	217	50	267	157	50	207
1882 and March quarter of 1883	243	65	308	238	67	305
1883–'84	276	70	346	242	73	315
1884–'85	304	77	381	279	71	350
1885–'86	322	80	402	253	83	336
1886–'87	317	77	394	196	82	278
1887–'88	319	85	404	196	102	298
1888–'89	325	93	418	245	102	347

Year.	Dismissals.			Balance at end of year.		
	Male.	Female.	Total.	Male.	Female.	Total.
1881	131	35	166	243	65	308
1882 and March quarter of 1883	205	62	267	276	70	346
1883–'84	214	66	280	304	77	381
1884–'85	261	68	329	322	80	402
1885–'86	258	86	344	317	77	394
1886–'87	194	74	268	319	85	404
1887–'88	190	94	284	325	93	418
1888–'89	207	98	305	363	97	460

Table showing the number of convicts employed in the workhouse and their earnings.

Year.	Average number in workhouse.	Daily number unfit for work.	Average number fit for work.	Number under arrest.	Number without employment owing to lack of work.	Number on farms who received no wages, Nov. 1 to Mar. 31.	Average number employed daily.
1881	827	72	755	8	.....	.....	747
1882 and March quarter of 1883	880	60	820	9	.....	.....	811
1883–'84	1,338	61	1,277	13	73	.....	1,191
1884–'85	1,421	74	1,347	18	30	162	1,137
1885–'86	1,171	72	1,099	12	1	212	874
1886–'87	1,405	67	1,338	15	1	279	1,043
1887–'88	1,587	72	1,515	14	2	410	1,089
1888–'89	1,457	78	1,379	15	2	355	1,007

Year.	Earnings.			Less expenses for material.	Net earnings.	Average annual earnings of each person employed.
	Cash.	Work for the institution.	Total.			
	Marks.	*Marks.*	*Marks.*	*Marks.*	*Marks.*	*Marks.*
1881	52,880.35	29,746.08	82,626.43	86.41	82,540.02	110.49
1882 and March quarter of 1883	79,701.98	41,772.50	121,474.48	32.50	121,441.98	148.10
1883–'84	103,747.77	48,405.84	152,153.61	44.50	152,109.11	127.72
1884–'85	113,100.76	60,205.44	173,306.20	32.50	173,273.70	152.40
1885–'86	87,880.11	51,358.53	139,238.64	566.66	138,671.98	158.66
1886–'87	106,471.55	53,173.75	159,645.30	1,284.87	158,360.43	151.83
1887–'88	104,779.72	60,292.92	165,072.64	583.05	164,489.59	151.05
1888–'89	162,750.49	57,073.63	159,824.12	266.50	159,557.62	158.45

HOME FOR THE HOMELESS.

This institution, established, as stated above, in the fall of 1887, relieved the commissioners of the poor of care for homeless families and for night wanderers. It is intended for poor families and poor individuals who, for any cause whatever—on account of having no means, or of being dismissed from a hospital, or of having come to the city without having first obtained employment—are temporarily without a home. Admission is obtained through an order from the commissioners of the poor or a requisition from the police authorities. Furthermore, anyone who registers himself as roofless can obtain accommodation for the following night.

For these two different purposes the institution is specially arranged in its inner construction and management. The building is four stories high, was built after plans of Municipal Architect Blankenstein at a cost of 943,279 marks, and consists of a front building and two side wings. In the front building on the ground floor are apartments for the inspector, "house father," and janitor, as well as the office. On the second, third, and fourth floors are sleeping rooms for the female members of the homeless family. In the cellar are housekeeping rooms, the wash rooms, and the overseer's dwelling. In the right wing are accommodations for the male members of the homeless family (with the exception of boys less than 6 years old, who are quartered with their mothers), the office of the "house father," the physician's room, and the waiting room for persons requiring medical examination. In the left wing are the waiting and dining rooms for women, the school and dining room for children, the kitchen, and the rooms for female overseers. The different floors are connected by massive stairs. Homeless families are separated according to sex. Husbands and fathers are permitted to visit their families during the daytime. A little behind the front building for homeless families is a building for night wanderers. This is erected in barrack form. A light, airy corridor passes through the building lengthwise. On each side of this corridor are ten dormitories. Each dormitory accommodates 60 or 70 persons and has as many wooden bunks. At both ends of each dormitory are wash rooms, each accommodating 3 persons. The ventilation of the dormitories is good, and the heating is effected by means of hot air. To the night guests an opportunity to bathe is offered. The baths are of such character that 20 persons can bathe at once. There are both shower and tub baths. While the persons are bathing their clothing is disinfected. In the family department meals are served in the dining rooms. The morning and evening meals consist of soup with bread. Dinner consists of dried vegetables, cereals, etc., which on 4 days in the week are cooked with meat and on the other days with tallow. For sick persons, as well as for nursing mothers, special provision is made, consisting of milk, meat, beer, rolls, butter, coffee, etc. The food is prepared in a kitchen which is provided with three "Senking" cooking apparatus, holding 400, 500, and 800 litres, respectively. The washing is done in the wash kitchen by women who enjoy the shelter of the institution. The men are also re-

quired to assist in the household work, so far as possible, such as peeling potatoes, cleaning the halls, etc.

The night guests before their departure are each given flour, soup, and 200 grammes of bread. The children are instructed by a teacher in the employ of the city. On fair afternoons in summer the children are allowed to play in a playground attached to the institution, while in winter and on rainy days they remain in their play room. Church services are held twice every month, and are attended by all inmates of the institution.

As a rule, families are not allowed to remain in the home more than 8 days, during which period they are required to seek a dwelling. The first rent due, so long as it does not exceed 15 marks, is paid by the institution.

Night guests remain only one night, though they can come again. If, however, they come more than five times in a month, they are brought before a criminal police officer stationed in the home for punishment.

The following table shows to what extent the department for the homeless in the institution was frequented in 1888–'89:

Description.	Families.	Male.	Female.	Total persons.
Families:				
In the home on March 31, 1888	64	80	130	210
Admissions from April 1, 1888, to March 31, 1889	1,234	1,687	2,545	4,232
Total	1,298	1,767	2,675	4,442
Dismissals from April 1, 1888, to March 31, 1889	1,233	1,675	2,544	4,219
Remaining in home at end of fiscal year 1888–'89	65	92	131	223
Individuals:				
In the home on March 31, 1888	.....	25	10	35
Admissions from April 1, 1888, to March 31, 1889	.....	407	445	852
Total	.....	432	455	887
Dismissals from April 1, 1888, to March 31, 1889	.....	394	421	815
Remaining in home at end of fiscal year 1888–'89	.....	38	34	72

In the department of night wanderers, during the year 1888–'89, 220,776 persons found shelter, of whom only 8,733 were new visitors. The difference between the number of male and female visitors was remarkable. While there were only 30 or 40 females a day, the number of men ranged from 250 to 1,400.

W. H. EDWARDS,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Berlin, April 23, 1891.

TRUFFLES.

REPORT BY CONSUL KNOWLES, OF BORDEAUX.

The ancient Romans, at whose sumptuous banquets truffles played an important rôle, supposed that their existence was one of the material results of thunder. More modern botanists have classed it as a species of mushroom, but it can scarcely be termed such. To be exact, the truffle is a tuberculous fungus, a sort of morbid extravasation of vegetable sugars analogous to oak balls or nutgalls, and doubtless originating, as these latter, by the sting of an insect.

"During the months of July and August," observes M. Valserres, a noted naturalist, "a little fly, azure-winged and small of body, penetrates into the soil at the base of oak trees or elsewhere in search of certain juices there to be found. With its sting it pierces some portion of the root, makes an incision, and therein lays its eggs. From this incision, or scar, there exudes a viscous substance, which, clinging to the root, grows into a truffle." How exact this theory may be is a matter of conjecture. Certain it is that truffle-hunters are attracted to their spoil by a little insect; but it is not altogether impossible that the fly itself is attracted, like a true gourmet, by the very existence of the precious object.

There are three species of truffles found in France—the black and most common, the white (highly prized), and the *truffe à l'ail*, which has a flavor of garlic. They are found in all soils, but chiefly in oak forests or where the earth is damp and calcareous, thriving best in an almost sterile soil. The best that the country affords come from Périgueux and about Angoulême.

In appearance the ordinary truffle is about the size of a walnut, with a rough, brown, warty surface, closely akin to the potato, which it likewise resembles in consistency, though not in color. Not yielding to cultivation, they must be sought for in chance places, nor is the method of obtaining them the less interesting.

It is known that the pig has a vigorous appetite for this subterranean morsel. It is a decided passion with the race; so that, as the day dawns, out he is led to perform a duty which, though rather odious and disappointing to him, is particularly lucrative to his master. As the scent of the fox leads hounds to the trail, so the odor of truffles attracts the porker to the cherished bed. He sniffs about this way and that until he locates the desired object, when he immediately begins to root up the earth with his awkward snout. He is closely watched during the operation by his owner, who, upon the swine uprooting the truffle, whacks him sharply over the nose with a stick. In the responsive grunt of pain which follows this brutal blow the soft, moist fungus is dropped from the animal's jaws, and, before he can again pick it up, it is bagged by the hunter. The beast, nothing daunted, presses on to another spot, where, hidden a few inches below the surface of

the ground, are more of the epicurean dainties. And thus, after numerous repetitions of the same performance, the animal, thoroughly disappointed, gives up in disgust and submits to being led back to his pen; but on the morrow, thanks to the pig's short memory, the occurrences of the day before are completely forgotten, and he experiences again the same joy and pain, hope and disappointment, expectation and defeat.

Recently it has been found that dogs could be trained to perform the duties that are instinctive to the pig, and so great is the demand in France for the truffle that many of the canine species are now, in certain districts, possessed of this estimable talent. The training through which they pass in order to acquire a scent is a decidedly agreeable one. To begin with, finely cut or sliced truffles are mixed daily with their food, until at length they develop a liking for the flavor. Afterwards their owners conceal, in some portion of a field where truffles are supposed to exist, a little tin dish of *filet aux truffes*, covering the same with a few handfuls of earth. The dog is then brought out and urged to hunt for the dish, goaded by an empty stomach. When he at length finds it, he is caressed by his master, and thus in the space of a few weeks he will readily learn to hunt for the vegetable itself.

Truffles are seldom found twice in the same place. A field that may yield a great quantity this year will be quite fruitless the next. Though Alexander Bornholz, a German scientist, claims to have transplanted and raised the article in question, repeated experiments to that end have proved but failures. The Count de Noá, a Frenchman, and a certain M. Rousseau made like claims, but they have in each case been discredited.

The very fact that the truffle is a rarity and that it grows only in certain districts has been enough to make it an object sought after clandestinely by peasants or those who carry them to market. There are poachers for truffles as well as for game, who hunt by night with their dog or porker, a plague to landowners and a *bête noire* to local gendarmes.

Scarcely is there a canning establishment at this moment in France that does not, among other alimentary products, preserve this dainty. It has become as indispensable to the dinner table of the *noblesse* as the aromatic sprig of garlic to the frugal repast of the peasant.

The annual production is valued at about $3,000,000. The article is sold in the departments where found at $1 per pound and at almost double that price at the principal markets of the larger cities. Not alone does the truffle thrive in France; they are found in quantities in Italy, Spain, and Holland, but are of indifferent quality compared with the French, lacking the delicate and incomparable flavor of the native product.

In the United States, especially in California, some attention has been given within the past few years to the gathering and preserving of truffles, and a number of Western packers have come to Bordeaux in order to inform themselves regarding the canning process. It is a very simple one, the truffles being partially boiled, as tomatoes, asparagus, and other vegetables, and then jarred and sealed in their own diluted juice. All meat and game

products are also "truffled," the vegetable being cut into small squares and inserted into the substance of the article preserved.

The following table shows the importation and exportation of truffles to and from France for the year 1889:

Countries.	Imports.	Exports.
	Pounds.	*Pounds.*
England	.....	204,633
Germany	.....	107,276
Belgium	.....	38,990
United States	.....	24,387
Russia	.....	12,606
Switzerland	.....	9,424
Austria	.....	5,860
Italy	22,585	.....
Other countries	.....	49,185
Total	22,585	452,361

The estimated value of the exports was $476,147.

HORACE. G. KNOWLES,
Consul.

UNITED STATES CONSULATE,
Bordeaux, June 3, 1891.

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GRAIN CROPS OF THE WORLD.

REPORT BY CONSUL-GENERAL GOLDSCHMIDT, OF VIENNA.

INTRODUCTORY REMARKS.

The agitation which has taken hold of the grain markets has made it an urgent necessity to gain clear and reliable information concerning the new crops and the relations of grain-producing and grain-consuming countries therewith. The grain markets, through their vast sources of information, are enabled to judge of the relation between stock and requirement, and the probable demand, and the development of supply. The grain trade, however, receives a clear picture of the situation by the report of the commission of the International Saatenmarkt (grain market), by whom is published a reliable grouping together of the grain product of the world, thereby solving a question surpassing by far the narrow circle of the grain trade. The Vienna International Saatenmarkt, from its original purpose of being a market for the realization of the inland grain production, has grown into an institution of special usefulness to the markets of the world. Its significance has been increasing from year to year, because the advantages which it offers are being acknowledged more and more, not only at home, but in foreign countries. To-day, when harvesting has been finished nearly everywhere, it has become necessary, by a conscientious representation of the real state of crops in the several countries, to quiet the excitement on the part of the consumer, to give to commerce a settled direction, and to prepare for the regulating of prices for the coming months.

The winter crops of Europe have suffered to an uncommon degree by the severity of a winter unusually hard and continued, which proved detrimental by the freezing of rye and rape especially. A great deal of the winter crop had to be plowed over to be replaced by summer grain, as only a small share of the former had developed well enough to reach a ripened state. But

then again, another period set in which proved injurious to the development of vegetation, commencing with cold, rainy weather and reaching its climax during reaping time, thus still reducing the return of the acreage, which had already been lessened so greatly. In Russia, Germany, and Austria-Hungary many tillers of the ground have worked for naught, and one and all of them are suffering from a considerable shortage of the yield of rye. To this may be ascribed the unusual rise in the price of food grains in all the European grain-consuming districts. Russia was forced to prohibit the export of rye and rye products, because a part of its population had been visited by the failure of harvest and by famine. The German Empire, persisting in its grain tariff to favor the agrarians, is compelled to submit to enormously high prices. In Austria-Hungary the rural population has taken to the use of surrogates, not because food grain is scarce, but because it seems to be more advantageous to producers to sell their rye at the present high rates and consume barley and maize instead, which are of much lower market value. Similar changes have taken place in Denmark and Germany, where the military authorities are prepared to introduce wheat instead of rye bread for the use of the army, in order to prevent a still greater rise in the price of rye. The scarcity of rye and its abnormal high price will compel many consumers to replace it by some other grain product, and this circumstance will confine the price of rye to certain limits, which will not be exceeded as long as there is wheat enough to supply the demands of the world.

Fortunately, the wheat crop has turned out better than the bad state of the weather would allow to be expected 10 days ago, and, although in Europe wheat has not yielded anything like a normal crop, that of the United States has happily turned out so much more abundant that the western hemisphere, by its enormous surplus, will be enabled to supply the shortage on this side of the Atlantic. Since April immense fleets laden with wheat have been making their way to the ports of England and of the Continent, and they are still carrying the surplus left in the United States of the small crop of 1890, which amounted to only 399,000,000 bushels, whilst this year's crop, estimated at 545,000,000 bushels, is only lately being forwarded to Europe. The western part of Europe, probably, will be sufficiently supplied within a short time, and, while these supplies formerly came from the East, they now are imported from the West, and are likely to make their way to all the markets of central Europe in like manner. This may soothe the apprehensions in regard to grain consumption, particularly those of the many millions of persons of limited means, who could not but with great anxiety have witnessed the violent fluctuations of the grain prices during these latter weeks, and who are confronting the vital question of how to meet such a considerable increase in the outlay of providing for the daily bread for themselves and their families.

Without any exception, the detailed reports of the commission of the International Saatenmarkt point out the pernicious influence of the weather of the last 10 months; they all tell of the severity and long duration of

the winter, the injurious effects on the tillage of winter grain, the unparalleled large portion of acreage frozen, the nearly futile sowing of fields with summer grain, the bad effects of the rains of July and August on the quantity and quality of crops, and last, but not least, the entire exhaustion of the stock of 1890 at a time when the new crop had not yet been secured. All this will explain the rapid rise of grain prices in the first weeks of August. The old stock having become very low and the new crop not coming into consideration on account of its being wet and not marketable, the heightened demands of the mills caused a rise of prices, which, with a normal condition of the weather at harvesting time, would never have been thought of; indeed, the more favorable turn of weather during the last few weeks has brought about a downward tendency of prices. In the northern grain-growing districts the danger to the crops still in the field has greatly lessened, and consumers look forward to the future with less of anxiety and care.

The crops of Austria-Hungary are satisfactory in comparison with the general situation. They give the certainty that the Monarchy will not suffer from a failure. With the exception of rye, nearly a full crop has been housed, and not only has the home supply for the two realms been secured, but a small surplus may be spared for export. That surplus, to judge by former experience, may still become larger if maize and potatoes will yield a good return and if the people take to these and other surrogates. Furthermore, by the import and consumption of food grain from Roumania and Servia a like quantity of home-grown grain will be made available for exportation.

The reports of the crops of Russia surpass by far the expectations entertained for weeks. There will be very low figures to be reckoned, especially those for rye, which, on an average, is scarcely 63 per cent. of a normal crop, whilst wheat has reached at least 79 per cent. Many districts do not reach' even these figures, and others have not yielded as much as the seed sown. The exportation of food grain is an open question if it be assumed that the Russian Government will leave nothing untried in order to assist those provinces which have been visited by failure of crops by supplying them with wheat from such provinces as have been favored with better crops.

The crops of the United States form a gratifying contrast to the somber picture of the European crops, and at the same time offer surprising facts in two directions. Last year's crop was estimated at 414,000,000 bushels, but, according to official statement, yielded only 399,000,000 bushels, and yet the export of 1890–'91 was 106,000,000 bushels, against 109,000,000 bushels in 1889–'90. This year's crop, up to the present, has been estimated at 515,000,000 bushels, and now it is figured at 545,000,000 bushels. There can be no doubt that the United States during the present harvest will be able to make up fully for the shortage of the European wheat crop, and the enormous figure which the quantity of grain already shipped has reached shows that the Americans are fully able to supply the present deficiency. The very large crop of maize in the United States is of less interest to Europe. Its returns are still subject to the chances of the weather, but still it will

form a mighty factor of exportation from the United States. In the same manner as elsewhere maize will give a surrogate for wheat and rye if the export of these latter will offer greater advantage.

The international commission calculates the wheat crop of Europe at only 82.5 per cent., and rye as low as 72.1 per cent., of a normal crop. In 1890 the average crop of wheat was computed at 100 per cent. and in 1889 at 80.2 per cent. for wheat and 75 per cent. for rye. Very much is still dependent on the state of the weather, as in many parts the grain is still in the field; but it is of greatest importance to maize and potatoes, as these will have great influence on future prices. The prospects for maize are entirely favorable, but the reports in regard to potatoes from all parts show the appearance of rot, thus greatly reducing the hopes for a good crop.

THE GRAIN CROP OF THE WORLD.*

The Hungarian ministry of agriculture has published the following statement of the world's grain crop in 1891–'92, as compiled from consular reports by the Hungarian bureau of statistics:

In the United States there will be a good crop, resulting in larger exportations. Russia, on the other hand, will have a bad crop, so that this country can hardly be taken into consideration as regards exportation. The returns of this year's grain crop of the world are estimated as follows: Wheat, 725-000,000 to 736,000,000 hectolitres;† rye, 350,000,000 to 360,000,000 hectolitres; a falling off, as compared with last year's crop, of 44,000,000 to 50,000,000 hectolitres of wheat and 90,000,000 to 100,000,000 hectolitres of rye, or a shortage, as compared with a normal crop, of 28,000,000 to 32,000,-000 hectolitres of wheat and 90,000,000 to 100,000,000 hectolitres of rye.

The yield of wheat and rye in the various countries and the quantity required for import is stated as follows:

Countries.	Yield.		Required for import.	
	Wheat.	Rye.	Wheat.	Rye.
	Hectolitres.	*Hectolitres.*	*Hectolitres.*	*Hectolitres.*
England	25,500,000	.....	53,900,000	.....
France	82,500,000	.....	30,000,000	.....
Germany	31,000,000	.....	10,000,000	25,500,000
Italy	36,500,000	.....	12,500,000	.....
Netherlands	15,000,000	.....	4,500,000	5,500,000
Switzerland	3,000,000	.....	4,500,000	.....
Belgium	5,500,000	.....	11,500,000	2,000,000
Denmark	650,000	3,200,000	800,000	1,450,000
Sweden and Norway	1,700,000	.....	1,000,000	2,800,000
Spain	27,000,000	.....	2,000,000	.....
Portugal	2,900,000	.....	1,750,000	.....
Turkey	7,500,000	.....	2,600,000	.....
Austria	14,500,000	22,500,000	11,000,000	6,000,000
Russia	66,500,000	192,500,000	.....	42,500,000
Hungary	42,500,000	11,650,000	.....	.....

*On August 29, 1891.

†1 hectolitre=2.8338 bushels.

The yield of wheat in Russia is estimated at 60,000,000 to 72,000,000 hectolitres, that of rye at 165,000,000 to 178,000,000 and even at 190,000-000 hectolitres, making a surplus of 16,500,000 hectolitres of wheat and a shortage of 40,000,000 to 45,000,000 hectolitres of rye.

There were 44,300,000 hectolitres of wheat growing in Hungary, which, in consequence of injuries caused by elementary occurrences, were reduced to from 42,000,000 to 43,000,000 hectolitres, or 33,000,000 metre centners. The rye return is about 14,810,000 hectolitres, of which 20 to 25 per cent. is to be deducted, making the effective return of rye from 11,250,000 to 12,000,000 hectolitres, or from 8,000,000 to 8,500,000 metre centners. The surplus of wheat is from 12,000,000 to 13,000,000 hectolitres, but the shortage of rye is considerable, which, however, is made up by the surplus of wheat and maize.

The yield of wheat in Roumania was 16,500,000 hectolitres; Bulgaria and eastern Roumania, 12,500,000 hectolitres; United States, 191,000,000 hectolitres, with a surplus of 63,000,000 to 65,000,000 hectolitres, including 7,500,000 hectolitres of old stock; Canada, 22,000,000 hectolitres, with a surplus of 5,300,000 hectolitres; Algiers, Tunis, and Egypt, 24,000,000 hectolitres, with a surplus of 3,500,000 hectolitres, of which 50 per cent. has already been exported; East India, 73,500,000 metre centners of wheat, with a surplus of 5,000,000 metre centners, besides 7,000,000 metre centners already exported; Australia, 11,500,000 hectolitres, with a surplus of 7,000,-000 hectolitres, of which, however, 5,000,000 hectolitres have been exported.

THE CROPS OF 1891.*

AUSTRIA-HUNGARY.

This year's grain crop will considerably fall short of that of last year, which latter, however, was one of the richest ever harvested in Austria-Hungary. The aggregate return is stated at 60,905,200 metre centners† (223,-786,000 bushels at 60 pounds per bushel), and cultivated on an area of 4,248,775 hectares‡ (10,499,138 acres), as follows:

Wheat.—In Austria about 14,700,000 metre centners were cultivated on an acreage of 1,147,274 hectares, making an average of 12.8 metre centners per hectare. This return falls short of a normal (not an average) crop by about 1,000,000 metre centners. This shortage is caused, to a great degree, by the loss in the weight of the grain in consequence of continued rains during the time of harvesting. These rains were also so injurious to the quality, color, and dryness as to make the first quality of wheat an exception in Austria.

In Hungary and Transylvania about 34,750,000 metre centners of wheat were cultivated on 2,979,701 hectares, making an average of 11.6 metre centners per hectare, which is nearly equal to a normal crop. But the

* As reported at the Nineteenth International Getreide und Saatenmarkt (International Grain and Seed Market) at Vienna on August 31 and September 1, 1891.

† 1 metre centner=220.5 pounds, average.

‡ 1 hectare=2.4711 acres.

quality leaves much to be wished for, as large quantities of wet, pale, and light wheat have been harvested, and the kernel, besides, is frequently pressed and subject to rust. A sound, red, and heavy quality is of rare occurrence.

In Croatia, Slavonia, and the Militärgrenze (Military Frontier) the acreage of wheat is 121,800 hectares, and the average production is estimated at 14 metre centners per hectare, which in these countries would be equal to a normal crop.

The wheat crop of Hungary, Transylvania, Croatia, Slavonia, and the Military Frontier will be an average one in regard to quantity, but much below an average one in regard to quality.

Rye.—In Austria the crop is about 23,000,000 metre centners and the acreage 1,998,130 hectares, making an average yield of 11.4 metre centners per hectare. The shortage is nearly 5,000,000 metre centners as compared with a normal crop. The crop is not generally good.

In Hungary and Transylvania the yield is 10,500,000 metre centners; acreage, 1,239,875 hectares; average yield per hectare, 8.5 metre centners; shortage, 3,750,000 metre centners. The total shortage in Hungary alone is about 4,500,000 metre centners. The quality is for the greater part bad.

In Croatia, Slavonia, and the Military Frontier the crop is still more unfavorable than in Hungary and Transylvania. The yield is about 500,000 metre centners; acreage, 103,089 hectares; average yield per hectare, 4.8 metre centners; shortage, 600,000 metre centners. The quality is still worse than in Hungary.

Barley.—In Austria the acreage is 1,115,950 hectares, to which is to be added the acreage sown with rye last autumn and frozen in winter, the area of which can not be stated exactly. The estimated crop is 17,000,000 metre centners, making a surplus of 1,500,000 metre centners as compared with a normal crop. The quality varies.

In Hungary and Transylvania the acreage is 1,007,806 hectares, increased by fields devoted to rye and frozen, as in Austria. The crop is about 13,500,000 metre centners; surplus, 1,750,000 metre centners as compared with a normal crop. A good quality of brewing barley is very rare.

In Croatia, Slavonia, and the Military Frontier the yield is about 750,000 metre centners. The quality varies very much and is not fit for brewing purposes.

The total surplus of barley in Hungary is about 2,000,000 metre centners.

Oats.—In Austria the acreage is 1,873,746 hectares, to which are to be added, as above, part of the rye fields which were frozen. The yield is 28,500,000 metre centners; surplus, 2,250,000 metre centners as compared with a normal crop. The quality leaves much to be wished for, but is more satisfactory than that of barley.

In Hungary and Transylvania the acreage is 996,556 hectares; yield, about 14,000,000 metre centners; surplus, 1,000,000 metre centners as compared with a normal crop. The quality is not unsatisfactory, but generally light, though sound.

In Croatia, Slavonia, and the Military Frontier the acreage is 111,550 hectares; yield, 1,700,000 metre centners; surplus, about 330,000 metre centners as compared with a normal crop.

The total surplus of oats in Hungary is about 1,300,000 metre centners as compared with a normal (not an average) crop.

Total crops.—The total crop of wheat was 51,000,000 metre centners; rye, 34,000,000 metre centners; barley, 31,000,000 metre centners; oats, 44,000,000 metre centners. Compared with a normal crop, this makes the shortage of wheat 1,000,000 metre centners; of rye, 9,000,000 metre centners; and a surplus of barley of 3,500,000 metre centners and of oats of 3,350,000 metre centners.

Prospects for maize, with the exception of Tyrol, Czik, and Marmaros, are partly good, partly very good. Prospects for potatoes are reported to be varying. Complaints of rot are frequent, and apprehensions about the result are entertained in those districts where potatoes are of the greatest importance. At the time of writing the weather is very favorable.

There are great difficulties in estimating at present the probable quantity of food grain that may be exported from Austria-Hungary. Home consumption is not only dependent on the yield of potatoes, maize, peas, beans, fruit, etc., and on their prices, as was the case heretofore, but is also influenced by the higher wages granted to the workingmen of the many factories, mines, and numerous other trades, which enable a numerous class of the population who formerly fed on potatoes and other surrogates, and who consumed relatively very little food grain, to procure better nourishment, thereby causing an increase of the quantity of food grain consumed within Austria-Hungary. This quantity can not yet be stated exactly, but it will naturally affect the quantity of food grain to be spared for exportation.

Taking these facts into consideration, the probable export may be estimated at from 3,500,000 to 4,600,000 metre centners of wheat and wheat flour. Rye could be spared only if—which is probable—in consequence of the abnormal high price for rye, there is used in its place wheat, black wheat flour, barley, maize, or potatoes, both for human food and for industrial purposes. This is particularly true in regard to the manufacture of alcohol.

Table showing the cereal crop of Austria-Hungary, a normal crop being taken at 100 units.

Grain.	Hungary.	Austria.
Wheat	100	93
Rye	71	83
Barley	116	109
Oats	111	108

Table showing the grain exports from Austria-Hungary from 1886 to 1890, inclusive.

Year.	Quantity.	Year.	Quantity.
	Met. cent.		*Met. cent.*
1886	6,431,826	1889	7,940,494
1887	7,797,138	1890	7,298,530
1888	10,109,002		

Table showing the grain exports from Austria-Hungary in 1890.

Grain.	Total.	Germany.	Switzerland.
	Met. Cent.	*Met. Cent.*	*Met. Cent.*
Barley	3,463,627	2,779,508	107,628
Malt	1,214,968	716,097	224,225
Wheat	2,323,520	1,111,726	1,175,483
Maize	136,517	137,160	71,250
Oats	108,864	17,281	116,643

GERMANY.

In Prussia the crops are estimated as follows, taking a normal crop at 100 units: Winter wheat, 90; spring wheat, 96; rye, 76; barley, 100; Oats, 105.

In upper, central, and lower Franconia spring wheat, barley, and oats are a small percentage above middling; spring rye, winter wheat, and peas are middling; winter rye is 5 to 10 per cent. below middling. Early potatoes have suffered from the weather.

In the Kingdom of Saxony wheat is estimated as 103; rye, 93; rape, 89; barley, 110; oats, 112; a good normal crop being taken at 100 units.

In upper and lower Bavaria wheat is estimated at 78; rye, 80; barley, 135; oats, 130; a normal crop being taken at 100 units. Two-thirds of the wheat is estimated as good, one-third wet. The same may be said of rye. Barley is, in regard to quantity, very good; three-fourths is good and fit for brewing purposes, the other fourth for grinding and for food. Oats yielded a rich return; the early cut is excellent, the later cut suffered from rain. Rape is a failure, the return scarcely yielding the seed sown. The old stock of wheat, rye, oats, and barley is scarcely worth mentioning. Fodder returns are very good. A few complaints are heard about potatoes, which may pass away if the weather remains dry.

In the Hessian and Bavarian Palatinate, wheat and rye are not very satisfactory. Barley is good, and oats excellent in regard to quantity. Taking a normal crop at 100 units, wheat is estimated at 75; rye, 80; barley, 95; oats, 140, and very good in quality. The quality of the other grains greatly varies and has suffered much from the wet. Potatoes are said to suffer greatly from the rot. Clover is satisfactory. As will be seen from the above, supplies from abroad will be greatly needed, especially as the old stocks have been completely exhausted.

In the Palatinate and Wetteraw wheat will not reach 50 per cent., and rye not above 75 per cent., of a normal crop. Barley and oats are very fine,

and a full crop may be expected. There are many complaints about the rotting of potatoes.

In Wurtemberg the yield of the various districts is estimated as follows, a normal crop being taken at 100 units:

Crop.	Neckar.	Danube.	Schwazwald.	Jagst.
Wheat:				
Winter	87.18	89	88.57	71.25
Spring	103.57	100	91.66	97.5
Rye	87.3	84.1	85.45	81.65
Barley	106.19	103.3	98.93	97.2
Oats	112.7	107.2	99.23	106.65
Spelt	95	90.83	93.33	81.65
Peas	90.75	92.2	90	92.5
Beans	96.2	90	100.9	92

Spring wheat and spring barley are excellent. Clover suffered from the long winter. Hay is good, but partly suffers from unfavorable weather. Early potatoes yield a good return; late potatoes show a disease of the leaves, but how this will affect the return can not be told yet. Cherries and plums did very well. Pears are good and apples middling. Wurtemberg will be obliged to import food from abroad.

In the grand duchy of Baden the returns in regard to quantity are estimated as follows, a normal crop being taken at 100 units: Wheat and spelt, 60; rye, 65; barley, 105; oats, 130; but these figures may still be modified by the state of the weather. Rye and barley were generally wet when housed. Potatoes have lost in consequence of the unfavorable state of the weather. The plants will require a series of fine days if they are to improve. The demand for the import of wheat and rye will be much larger than is the case in normal years. Numerous transactions have been made in American wheat, which this year is of a particularly fine quality. Large quantities are on the way from southern Russia, Roumania, and the La Plata states. The demand for foreign rye can not as yet be satisfied, on account of high prices, and the consumption of wheat will be so much the larger. Barley is much used for grinding purposes.

NORTHERN EUROPE.

In consequence of the prohibition of exporting rye from Russia, the demand for maize from abroad will be much larger in Denmark, Sweden, Norway, and Mecklenburg than is the case in normal years. In Mecklenburg the yield is estimated as follows, a normal crop being taken at 100 units:

Crops.	Estimate.	Crops.	Estimate.
Oilseeds	86 to 87	Oats	105
Winter rye	85	Peas and beans	95
Wheat	95	Clover and hay	90
Barley	98	Potatoes	95

Rye has lost much in quality; what has been housed was wet, and what is in the field is sprouting. Wheat is subject to rust in consequence of the wet. Spring grain is standing good, but is suffering somewhat from rust and wet, which is especially the case with oats. Oilseed had partly to be plowed down in spring; what is left standing has greatly suffered from the inclemency of the weather. The stalks of potatoes are black; the bad smell of the fields shows the potatoes to be subject to disease. There is no old stock of wheat or rye, and many mills will have to be stopped soon. Mecklenburg is importing a small amount of maize and barley fodder.

In Denmark the prospects for crops were excellent; but the violent rains at the end of July, lasting till the middle of August, put everything in doubt. Wheat should now be cut, but it is beaten to the ground. Rye has been cut, but is still in the field wet and sprouting; it has been estimated at a full middling crop, but nothing certain can be said now. Oats seem to be very poor. Potatoes are excellent. The stock of former crops has been fully exhausted. Denmark always has to import wheat, rye, and maize, but exports barley and oats.

In Sweden and Norway hay, barley, and oats will yield about 90 per cent. of a normal crop. Rye and wheat promised very well. Rye has been cut everywhere, but, if the continual rains do not cease soon, there is great danger that the rich rye crops will be of little value, if not totally ruined. The quantity of rye is estimated at 5 per cent. above a normal crop. Wheat is not cultivated in Norway. Many complaints of the rotting of potatoes are heard. No old stock is at hand.

SWITZERLAND.

In Switzerland rye is estimated at 100; spelt, 100; wheat, 100; oats, 110; a normal crop being taken at 100 units. Potatoes are still fine, but will require dry weather. The stock of old grain is almost entirely exhausted.

HOLLAND.

In Holland wheat is estimated at from 70 to 80; barley, 100 to 110; rye, 70 to 75; oats, 110 to 120; a normal crop being taken at 100 units. Wheat has been cultivated less than formerly and will be of inferior quality in consequence of wet weather. Rye is very bad and in part even not fit for bread. Barley is abundant; quality probably good. Oats promise well; the quality is satisfactory and quantity unusually great. Potatoes require a dry season; the prospects are bad if the weather does not improve. The average annual import for the last 10 years was 180,000 lasts* of rye and 171,000 lasts of wheat; but it can not be stated how much of this was sent to Germany.

BELGIUM.

In Belgium wheat is estimated at 26; rye, 45; barley, 110; oats, 125; a normal crop being taken at 100 units. Forty-five per cent of the acreage of winter wheat was plowed over; the late stormy rains will still lessen its

* The last of rye is equal to 210 kilogrammes and of wheat 2,400 kilogrammes.—C. G.

quantity and quality. Rye has been housed in a bad condition. In June and July we had such large imports—4,400,000 hectolitres of wheat, mostly from India, La Plata, and Roumania—that a stock of 2,000,000 sacks of wheat accumulated. Now that stock is entirely gone.

FRANCE.

In France wheat is estimated at 64; rye, 90; barley, 100; oats, 115; a normal crop being taken at 100 units. The shortage is 40,000,000 hectolitres.

UNITED KINGDOM.

In the United Kingdom wheat will probably yield 90 per cent. of a normal crop. The estimated demand for import during the next season is 19,000,000 quarters. Rye is scarcely cultivated at all in this country. Barley is estimated at a normal crop; it is feared that a considerable part of the crop will be unsatisfactory in color. Oats are estimated at 90 per cent. of a normal crop; the result, in general, is satisfactory. Beans are estimated at 85 per cent.; peas, 95 per cent.; potatoes, 90 per cent.; hay, 95 per cent. The stock of wheat on August 25, 1891, was 1,250,000 quarters; in 1890, 1,600,000 quarters. Stocks in other grains are very small.

ITALY.

The wheat crop in the whole of Italy is estimated at about 30,000,000 metre centners; in upper Italy it is estimated at 70 per cent. of a normal crop. The quantity to be imported is calculated as at least 7,000,000 metre centners. Maize is estimated at 85 per cent. of a normal crop; its consumption has greatly decreased. Oats are estimated at 65 per cent. of a normal crop; quality very bad; the quantity to be imported is about 800,000 metre centners. Rye is a total failure; the yield will hardly be 25 per cent. of a normal crop. Beans are a total failure. Potatoes are excellent. Fruit prospects are brilliant, and wine is promising unusually well. Barley is but little cultivated; the quantity imported is the same every year, amounting to about 250,000 metre centners.

The crops in the various provinces of southern Italy in 1890 were as follows:

Provinces.	Wheat.*	Maize.	Rye.	Oats.
	Hectolitres.	*Hectolitres.*	*Hectolitres.*	*Hectolitres.*
Adriatic provinces	4,976,000	1,782,000	26,000	2,160,000
Mediterranean provinces	4,717,000	2,640,000	212,000	1,527,000
Sicilian provinces	5,042,000	20,000	23,000	89,000

* Equal to 75 per cent. of a normal crop.

On the basis of the reports of the chambers of commerce, it is affirmed that this year's grain and fodder crops will yield 25 per cent. more than those of last year, so that this year's crops may be called pretty abundant.

In eastern Italy wheat is estimated at 110 and maize 90, a normal crop being taken at 100 units. Oats promise a good middling crop. Millet

promises a good crop; the quality leaves much to be wished for. Beans and peas promise a middling crop and rice a good crop.

In central Italy the wheat crop in general is good and abundant. The different provinces yield about as follows, a normal crop being taken at 100 units: Maremma, 100 to 115; Umbria, 100; Romagna, 80 to 90, quality less good; Tuscany, 80, quality inferior. Old stocks are entirely exhausted.

SERVIA.

In Servia wheat is estimated at 100; Rye, 95; Barley, 98; Oats, 95; a normal crop being taken at 100 units. The acreage of wheat is 220,000 hectares; average yield, 10 to 11 metre centners per hectare; the quality varies from 74 to 78 kilogrammes per hectolitre; surplus for exportation in 1891, 650,000 to 750,000 metre centners. The acreage of rye is 60,000 hectares; crop, weak middling; quality, rather good. The yield of barley is good middling; part of it has lost color by rains. Oats yielded a weak middling crop. The acreage of maize is about 420,000 hectares; it promises a good yield. The stock of last year's grain is nearly exhausted. There will be a much less quantity of wine than last year; the quality will depend on the state of the weather.

ROUMANIA.

Wheat may be estimated at 90 per cent. of a normal crop; the quality is greatly inferior to that of last year; there are no old stocks on hand. The estimated quantity of wheat available for export is 10,000,000 hectolitres; the export of the new crop has already begun, about 120,000 metre centners having been sent to Germany.

There are no positive reports in reference to rye; the crop may be estimated at 60 per cent. The acreage has not increased with this grain as it has with the other grains, hence the quantity returned will be no more than 40 per cent. of the quantity reached last year; nevertheless, part of the crop will be exported.

Barley has turned out middling and will yield 60 per cent. of a normal crop. This year's acreage is much larger than last year's; thus the quantity available for export will probably be no less than last year.

Oats are rather good. The yield may be estimated at 50 per cent., and the export will probably be larger than in 1890.

Millet, which was a perfect failure last year, is giving a splendid outturn this year and may be set down at a normal crop or more. In the district of Jalomnitza the return is 20 to 28 hectolitres per hectare.

It is difficult to give an estimate of maize at present, but many complaints are heard about its condition.

RUSSIA.

European Russia.—The number of districts subject to a bad crop of winter grain has been considerably increased. To the central and northern portions of the Blackearth district (the government of Chernigov excepted)—the governments of Yekaterinoslav, Nizhnee-Novgorod, and Viatka—there

have now been added the governments of Kazan, Simbeersk, Samara, Saratov, the Donez district, and the government of Kherson. The districts yielding a crop of winter grain not fully satisfactory comprise the government of Astrakhan, the district of Ooralsk, the government of Orenboorg, the district of Shadrinsk of the government of Perm, the eastern part of the government of Vologda, the northern part of tne government of Tabreez, and the governments of Orel and Chernigov. A middling crop is anticipated in the southwestern governments, the government of Bessarabia (except the districts of Akerman and Ismail), the western governments of Smolensk, Kalooga, and Vladimeer, and in that part of the government of Vologda not mentioned before. In the other parts of European Russia and in Ciscaucasia winter grain was promising a good return.

In the eastern and southeastern Blackearth governments summer grain was totally lost, and in some places will not even return the seed sown; in the adjoining government of Voronezh it has suffered, besides, from May frosts. Summer grain is not quite satisfactory in the government of Astrakhan, in the greater part of the Donez district, and in the governments of Koorsk, Tambov, Penza, Riaza, Chernigov, and Perm. A satisfactory crop was expected in the governments of Bessarabia, Kherson, Tauris, Yekaterinoslav, Kalooga, Orel, and Toola. In all the rest of European Russia it is promising a crop above middling or a good crop.

The acreage of winter grain has experienced a considerable decrease, partly in consequence of the drought in the autumn of 1890 and the scarcity of seed for sowing, especially in the eastern and southeastern governments, and partly by the resowing with spring grain of many fields sown with winter grain which were frozen. Such resowing in a great measure has taken place in the whole of the Blackearth district, in the governments of Smolensk, Kalooga, Nizhnee-Novgorod, Kostroma, Viatka, in some of the governments of the west and of the Vistula, and partly in Pskov, Novgorod, and Vologda.

Concerning the acreage of spring grain, flax and buckwheat have been frequently replaced by potatoes, oats, and barley in consequence of the bad price for flax and the insecurity of the buckwheat return.

The total yield of the rye crop has been estimated at from about 76 to 77 per cent. of the average crops for the years 1883–'89, which were as follows:

Year.	Yield.	Year.	Yield.
	*Tschetwerts.**		*Tschetwerts.**
1883	93,000,000	1887	125,000,000
1884	115,000,000	1888	118,500,000
1885	118,000,000	1889	92,600,000
1886	111,000,000		

* 100 tschetwerts=596 bushels.

Taking the annual average of the above figures at 110,400,000 tschetwerts and this year's yield at 77 per cent. of that average, the total crop of rye in 1891 will amount to 85,000,000 tschetwerts.

Courland and Lithuania.—Taking a normal crop at 100 units, wheat is estimated at from 90 to 100, with but little acreage; rye, 75; barley, up to 100; oats, from 100 to 110; peas, middling; hay and clover, good; potatoes, middling good. Flax and hemp are well developed at present.

Russian Poland.—Thrashing gives better results than last year, yielding more seeds and less straw, but the quality leaves much to be wished for. Taking a normal crop at 100 units, the results of this year and last are as follows:

Crops.	1891.	1890.
Wheat	80 to 85	100 to 110
Rye	85 to 90	80 to 100
Barley	90	100 to 115
Oats	90	110
Peas	80	100
Rape	50	105

About one-sixth of the wheat crop is standing in the field and sprouting; acreage the same as last year's. This year's production of spring and winter wheat may be estimated at 3,456,000 hectolitres, against 4,435,000 hectolitres last year; shortage, 20 per cent. as compared with last year. Russian Poland will be able to export wheat. The export of rye has been prohibited by the Russian Government. The total production of rye may be estimated at 14,356,000 hectolitres in 1891, against 15,951,000 hectolitres in 1890; shortage, 10 per cent. Barley is unfavorable in color, being dark and earthy. At highest one-third of the harvest can be used for brewing purposes, the rest for fodder. The production of rye in Russian Poland is about 3,657,000 hectolitres, against 4,303,519 hectolitres last year. The quality of oats is inferior to that of last year; total yield, about 10,607,000 hectolitres, against 12,830,000 hectolitres in 1890. Beets do not promise much; warm weather is required. Potatoes are beginning to rot in the flats, but a large crop is expected if the weather improves.

Bessarabia.—The results of the crops, with the exception of maize and wine, are as follows per dessiatine:*

Crops.	Yield.	Percentage.
	Tschetwerts.	
Wheat	7	70
Rye	5	50
Barley	9	90
Oats	8	80
Rape	3	30

* 1 dessiatine=2.6997 acres.

Maize, which ripens in September, promises the excellent yield of 12 tschetwerts per dessiatine. This is of great importance to Bessarabia, as the rural population feeds principally on maize, of which a large quantity is also exported every year. Wine, too, is excellent; it is growing into greater significance for this country, as for the past few years it has been sold in increasing quantities to Warsaw, Moscow, St. Petersburg, and France. There is said to be but little of last year's grain stock on hand.

Governments of Kherson and Yekaterinoslav.—Barley, which was much used for resowing in place of the frozen winter grain, developed less than had been expected; new arrivals show small kernels and the small weight of about 55 kilogrammes per hectolitre. Spring wheat (Ghirca) stands better, and a good yield is expected. Rye fared worse than all the other grains, but can not be considered a total failure. Since the prohibition of rye exports fresh arrivals have been so large as to shake the belief in the quantity harvested. To be sure, in consequence of the high price and the immediate enforcement of the order of prohibition, arrivals come in quicker, and the shortage may make itself felt only afterwards. According to the order of prohibition, I should state the yield of rye at 50 per cent. of a normal crop, but, according to my personal belief, it is 60 per cent. What is wanting in winter wheat will be made up by Ghirca; I take the total yield to be 90 per cent. of a normal crop. Barley will be about an average crop, especially as its quality is inferior. Maize and oats are said to stand good, rape bad, linseed satisfactory.

Podolia.—Wheat gives a favorable return; seeds are of a lively color and perfectly developed, weight being 76 to 78 kilogrammes. Rye yields a middling return; kernel is full and of handsome color. Barley has many pressed seeds, generally of a dark color. Oats are excellent, having a full kernel of light color. Rape has suffered from insects; most of the fields were plowed over in the spring. Sugar beets and potatoes are fine, promising a rich yield. Taking a normal crop at 100 units, the result will be as follows: Wheat, 100; barley, 80; rye, 60; oats, 125; rape, 25.

Southern Russia.—In Bessarabia, where winter grain is turning out better than spring grain, a middling crop may be expected. Only in the north of Bessarabia, where continued rains have injured the crops, are prospects decidedly bad. A few districts of the government of Kherson seem to be favored; in most of them, however, crops are decidedly bad. In Yekaterinoslav and Poltava winter grain is very bad; but a good return of summer grain is expected in these two governments and in the Caucasus. In the north of Caucasus a good return of winter grain is also expected. In the north of Tauris expectations are not very satisfactory; they are better in the south. Near the Don the yield will be very defective; but it can not be said that the crops have been destroyed wholly in any of the governments of southern Russia. In many places where winter grain has suffered spring grain has succeeded, and where the latter has been destroyed a favorable condition of the winter crops is reported. At least there are no doubts here that the re-

turns will cover the demands of the country, and some hopes of exportation are also entertained. Wheat, in general, stands very well, but the kernel is shrunk in consequence of the great heat; weight, 77 to 80 kilogrammes per hectolitre. Rye is middling in quality; barley is inferior. Old stocks of all kinds are nearly exhausted. The quantity of wheat available for export is estimated at 6,000,000 metre centners, against 8,096,721 metre centners last year. In regard to the export of rye, nothing can be said. On the 27th of August the order prohibiting the export of rye will be enforced. Taking a normal crop at 100 units, the result will be as follows: Wheat, 75 to 80, against 105 to 110 last year; rye, 40, against 90 last year.

Northern Russia and governments of Livonia, Vitebsk, Voronezh, and Tambov.—The present crops of rye and wheat are estimated at middling. Spring grain is a little better in Livonia.

In the government of Vitebsk both winter and spring grain crops are estimated as inferior.

In Tambov winter grain has suffered considerably from frequent rains and May frosts. Flax was greatly injured, and millet and vegetables were entirely destroyed. Hay and straw will scarcely reach one-half of the return of last year.

In the northern part of the Koslov district 1 dessiatine yielded 10 poods* of rye; in the other parts, 40 poods. Of rye and wheat scarcely one-half of a crop is expected. In consequence of the scarcity of seed corn last spring, little spring grain was sown; this crop, too, can be estimated at only one-half of a normal crop.

In the government of Voronezh all the grain crops and oil fruits were greatly injured by frosts. In consequence of this, rye is thinly scattered and low, while in the southern districts winter wheat is totally ruined, and scarcely one-tenth of the rye is in good condition. Summer grain did not grow but 2 to 4 werschoks. In the same manner poppy, peas, linseed, and sugar beets have suffered; so that a part of the fields had to be plowed over for summer grain, while the other part remained uncultivated for want of seed for sowing. Millet and buckwheat were totally ruined by frost and subsequent heat. Even grass is unsatisfactory. Voronezh must be set down as a failure of crops, and seed for sowing is already wanting.

It is very difficult to state the average return of crops in figures, but, as near as can be estimated, it is as follows: Rye and wheat, 40 to 50; barley and oats, 60 to 70; a normal crop being taken at 100 units.

Central Russia (governments of Kiev, Volhynia, Koorsk, Orel, Poltava, Chernigov, and Kharkov).—One-fourth of the winter grain, mostly wheat, was destroyed by the coldness of winter and spring. The fields were sown with spring grain in time to cause the crop of these to be larger than usual. A positive rating of the crops can not be arrived at before the month of November.

* 1 pood = 36 English pounds.

The present estimate is as follows, a normal crop being taken at 100 units:

Governments.	Wheat.	Rye.	Barley.	Oats.
Kiev	60 to 65	80 to 90	90 to 100	100 to 120
Volhynia	80 to 90	85 to 95	90 to 100	100 to 110
Koorsk	35 to 45	40 to 50	80 to 90	100 to 110
Orel	30 to 40	30 to 40	80 to 90	80 to 100
Poltava	65 to 75	84 to 95	100 to 110	110 to 120
Chernigov	60 to 70	75 to 85	90 to 100	110 to 120
Kharkov	30 to 35	40 to 45	90 to 100	100 to 110
Total average	55	65	95	110

Buckwheat, millet, peas, and beans promise an unusually large return, except in the governments of Koorsk and Orel. There have been large quantities of them cultivated. Rape will yield almost nothing at all, but linseed promises a very large return.

EGYPT.

I again have to report good crops throughout Egypt. The acreage of wheat is said to be from 5 to 10 per cent. more than last year. In Lower Egypt crops thrived excellently, while in Upper Egypt complaints were heard. I estimate the total yield at from 5 to 6 per cent. higher than last year. The surplus available for export I estimate at 750,000 metre centners. The stock of old grain amounted in the whole of Egypt to about 300,000 metre centners when the new crop was becoming available. Of last year's crops there have been exported 446,000 metre centners.

Beans are extraordinarily good in Upper Egypt, while Lower Egypt has not produced enough for home consumption and must be supplied by Upper Egypt. The estimated quantity for export is 1,775,000 metre centners. The stock of last year amounted to 100,000 metre centners at the coming in of the new crop. The export last year was 1,420,000 metre centners.

Maize yields the largest return ever noted. The quantity available for export is 1,000,000 metre centners. Old stocks were entirely exhausted. No maize was exported last year.

Barley yielded a very good crop. The quantity available for export is 250,000 metre centners. The export last year was 130,000 metre centners. The old stock, on the coming in of the new crop, was about 40,000 metre centners.

Lentils give very good returns. The estimated quantity for export is 80,000 metre centners. The export last year was 24,000 metre centners. The old stock on the coming in of the new crop was 25,000 metre centners.

The following is an estimate of the crops (official statistics are wanting), a normal crop being taken at 100 units: Wheat, 95; maize, 105; beans, 115; barley, 105; lentils, 105.

INDIA.

The average acreage is estimated at 26,500,000 acres; average yield, 6,500,000 tons of 1,015 kilogrammes each.

The following table shows the acreage and returns of wheat in the various districts of India in 1889, 1890, and 1890–'91:

Districts.	Acreage.			Returns.		
	1889.	1890.	1890–'91.	1889.	1890.	1890–'91.
	Acres.	*Acres.*	*Acres.*	*Tons.*	*Tons.*	*Tons.*
Punjab	6,447,000	6,222,000	7,073,000	1,702,000	1,603,000	2,071,000
Northwest Provinces and Oudh	4,881,000	4,527,000	5,219,000	1,677,000	1,458,000	1,745,000
Central Provinces	4,264,000	4,086,000	4,294,000	925,000	832,000	910,000
Bombay	2,608,000	2,446,000	2,375,000	607,000	661,000	553,000
Sind	333,000	469,000	466,000	154,000	171,000	197,000
Berar	867,000	830,000	817,000	116,000	122,000	106,000
Bengal	1,626,000	1,378,000	1,459,000	439,000	371,000	400,000
Rest of India	5,453,000	4,815,000	4,721,000	959,000	905,000	860,000
Total	26,479,000	24,773,000	26,424,000	6,579,000	6,123,000	6,842,000

By this it will be seen that this year's acreage surpasses that of last year by 1,651,000 acres, and the yield shows an increase of 689,000 tons in comparison with that of last year; but it must be borne in mind that the year 1889–'90 was unfavorable to wheat cultivation, and that this year's acreage has not surpassed the average of the last 5 years.

Punjab, the Northwest Provinces and Oudh, and the Central Provinces show an increase of 994,000 acres as compared with a normal year and of 1,751,000 acres as compared with the year preceding, likewise an increase of 422,200 tons as compared with the average return and of about 830,000 tons as compared with last year's return. In the Punjab the wheat acreage was larger than that of any former year, and the yield was larger by about 10 per cent. than a good average crop.

The export of wheat from British India was inconsiderable in 1890, but has increased essentially during the months of March, April, and May of this year. This increase was caused by the high prices in Europe, by the low rate of exchange, and by the unfavorable crops of the Occident. In the Punjab great quantities of futures of the new crop of wheat were bought at an early date and at very high prices. Only the ports of Bombay, Calcutta, and Kurrachee exported wheat, and Bombay takes the first place. During the season of 1890–'91 (April 1, 1890, to March 31, 1891) there came from the interior to these three ports 825,022 tons, whilst the average arrivals at these three ports amount to about 969,205 tons annually.

Taking all in all, it may be said that this year's exportation of Indian wheat will reach the highest figure since the year 1874.

SUMMARY OF WORLD'S CROPS.

Table showing the returns of the crops of 1891 on September 1, a normal crop being taken at 100 units.

Countries.	Wheat.	Rye.	Barley.	Oats.	Spelt.
Austria	93	83	109	108	.....
Hungary	100	71	116	111	.....
Prussia	92	76	100	105	.....
Saxony	103	93	110	112	.....
Bavaria:					
Franconia	100	92	103	103	.....
Upper and lower	78	80	135	130	.....
Rhenish Palatinate	75	80	95	140	.....
Hessian Palatinate and Wetteraw	49	75	100	100	.....
Baden	60	65	105	130	6[illegible]
Wurtemberg	(*)	85	101	106	9[illegible]
Mecklenburg	93	85	98	105	.....
Denmark	.....	100	.....	.....	.....
Norway and Sweden	110	100	90	80	.....
Italy	86	.....	.....	.....	.....
Switzerland	100	100	.....	110	100
Holland	77	73	105	115	.....
Belgium	86	45	110	125	.....
France	64	90	100	115	.....
Great Britain and Ireland	95	.....	100	90	.....
Russia:					
Podolia	100	60	80	125	.....
Bessarabia	70	50	90	80	.....
Poland	82	87	90	90	.....
Central	55	65	95	110	.....
Kherson and Yekaterinoslav	90	60	100	.....	.....
Courland and Lithuania	95	75	100	105	.....
North	45	45	65	65	.....
Roumania	90	60	60	.....	.....
Servia	100	95	98	95	.....
Egypt	95	.....	105	.....	.....

* Winter wheat, 84; spring wheat, 98.

In India last year 6,123,000 tons of wheat were harvested; this year, 6,842,000 tons; 6,579,000 tons is considered a normal yield.

In the United States, in 1890, 399,000,000 bushels of wheat were harvested; in 1891, 545,000,000 bushels. In 1890 1,490,000,000 bushels of of maize were harvested; in 1891, 2,027,000,000 bushels.

JULIUS GOLDSCHMIDT,
Consul-General.

UNITED STATES CONSULATE-GENERAL.
Vienna, September 14, 1891.

AMERICAN LARD AND CANNED BEEF IN GERMANY.

REPORT BY CONSUL-GENERAL EDWARDS, OF BERLIN.

I have the honor to transmit herewith as of possible interest a paper on American lard and canned beef in Germany, being a translation from the annual report of the chamber of commerce of Berlin.

W. H. EDWARDS,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Berlin, August 10, 1891.

AMERICAN LARD AND CANNED BEEF IN GERMANY.

[Inclosure in Consul-General Edwards's report.]

The consumption of American lard in Berlin was not quite as great in 1890 as in 1889, although prices were considerably lower. Prime Western steam lard in January, 1889, was quoted at 50 marks and in January, 1890, at 40 marks. In June the price had fallen to 39 marks, and here it remained, with light fluctuations, until the end of the year.

According to the reports of the royal chief tax office, in 1890 duty was paid on 13,545,279 kilogrammes, or 84,658 tierces of 320 pounds, against 15,977,544 kilogrammes, or 99,860 tierces, in 1889, about 15,000 barrels less.

The importation from America to Hamburg, Bremen, and the Baltic ports, as well as to those ports of the Continent which largely supply the German customs territory, was, however, greater than ever before, as is shown by the following figures:

Port of entry.	1889.	1890.
	Tierces.	*Tierces.*
Hamburg	151,666	248,305
Bremen	35,286	48,726
Baltic ports	84,624	128,015
Total	271,576	425,046

This is an increase of 153,470 tierces in 1890 over 1889. The causes of this enormous and never-before-equaled importation of American lard were three in number: First, the unusually high prices for beef and pork in Germany, caused by bad domestic provender crops and by the exclusion of foreign animals; second, the very low price of American lard; and, third, the good quality of this lard, which is improving from year to year, and, in consequence of its cheapness and good quality, is becoming an indispensable food factor for our people.

The following table shows the sale price in Berlin in 1890 per 50 kilogrammes, with 17 per cent. tax:

Months.	Prime Western.	Refined fat.
	Marks.	*Marks.*
January, February, March, April, and May	40	38 to 39
June, July, August, and September	40	37 to 38
October, November, and December	39	37

American refined fat, which is only a small fraction of the import, had increased sales in this year. This article has its own market and does not compete with the prime Western steam lard.

American pork was kept out only by means of the prohibitive edict.

The importation of American conserved beef in cans (corned beef), tongue, and pickled beef in barrels was much larger in 1890 than in 1889, as shown by the following statement: In 1890, 1,108,302 kilogrammes; 1889, 887,304 kilogrammes; increase, 220,998 kilogrammes. These articles rightly deserve the highest regard on account of their good quality and cheapness.

BURNT-CLAY MORTAR.

REPORT BY CONSUL HEATH, OF CATANIA.

Visitors to Catania invariably notice and remark on the peculiar soft pink color of all the unpainted buildings. This coloring is the result of using cement or mortar of proved value found in this vicinity, and which is nothing more or less than burnt clay.

In the frequent eruptions of Mount Etna in times past great beds of clay were covered and buried from 20 to 200 feet by the lava streams, with the result, when the eruption happened in the dry season, of burning and converting these clay beds into a fine red gravel or powder.

These deposits are mined and are considered very valuable. The material, mixed with a little lime and the usual amount of water, forms a mortar or cement considered superior to any other cement for building purposes and has been used here, to the exclusion of all other materials, for many centuries. Every building in Catania is constructed of lava, liberally cemented with this mortar, also sidewalks, aqueducts, the extensive sea wall, etc.

In building small, irregular stones are used, just as they happen to come, and a smooth surface is afterwards given by a thin coating of mortar inside and out, which can then be divided by a trowel to imitate blocks of stone if desired.

This burnt clay, with lime, makes a very strong and adhesive mortar; no other material would hold together the large four and six story apartment houses, which are built entirely of small, irregular stones. It also has unequaled wearing and resisting power, as the extensive harbor breakwater proves. This breakwater was built some 10 years ago, and extends for three-quarters of a mile out into the sea, and is as good to-day as when first built. It is composed entirely of lava, and for a foot below watermark, to a sufficient height to protect the shipping, of huge blocks of small lava rubble liberally cemented with the mortar.

The constant wear of the sea for 10 years has only damaged the cement in insignificant places and probably only where there happened to be an air space between the mortar and stones caused by faulty construction of the blocks.

In the United States, where so many bricks are used, there must be considerable dust and waste material, which, if used, would make a valuable

mortar. In fact, I am not sure but that it would be a profitable venture to burn clay for making this kind of mortar.

I hope that interested parties in the United States will give this mortar a fair trial, for I am convinced that brick dust and lime, properly mixed, will form an unequaled hydraulic cement and an economical substitute for the kinds now used.*

CHARLES HEATH,
Consul.

UNITED STATES CONSULATE,
Catania, July 15, 1891.

AMERICAN-SPANISH TRADE.

REPORT BY CONSUL TURNER, OF CADIZ.

In this report on Spanish and American trade I invite attention to those tables which relate to the year 1889 and to the deductions which follow. The data are official and the latest that can be obtained from Spanish sources. To me it seems worthy of the serious consideration of our producers and manufacturers, and hence I call special attention thereto.

In the inclosed table which shows the quantity and value of imports into Spain for the first 6 months of 1891 I have emphasized those articles which, in my opinion, should be supplied more and more by the United States in spite of all competitors. They are as follows:

Class 1—asphalt, benzine, gasoline, petroleum (raw and refined), pitch, tar, and vaseline.

Class 2—nails, screws, tubes, and wire.

Class 3—drugs and chemical foods and products, essences, paints, paraffin, perfumery, patent medicines, stearine, and starch.

Class 8—paper and its products.

Class 9—lumber and its products.

Class 11—machinery, carriages, etc.

Class 12—grains and foods.

The short crops, to which attention has been called in former reports, should largely increase—for this year especially—the importation of grain from the United States, as the countries from which Spain buys wheat and flour have had, with the exception of the United States, poor crops. Here it will not be out of place to call attention to the fact that Spain has not for years produced sufficient grain for home consumption. This is shown by an annual balance of several millions of pesetas against her in this branch of commerce, and proves that the opposition of the Catalans to the treaty

*In a subsequent dispatch to the Department Consul Heath says: "The more I look into the matter the more I am convinced of the value of the mortar described in my report of July 15, 1891, as an economical substitute of superior worth for all the high-priced hydraulic cements now used. We now import great quantities of cement; but when it is discovered that we have inexhaustible quantities of a material which only needs slight manipulation to equal, if not surpass, the best imported cement, the value to the country must be very great. The subject is especially worthy of the attention of the War Department, as the cement described has wonderful wearing and resisting power and is particularly adapted for building sea walls, jetties, etc."

between Cuba and the United States was, so far as it related to wheat, flour, and grain, not well founded.

The articles specially noted in classes 1, 3, 4, and 11 should come more largely from the United States than from other countries; such, at least, was the unanimous opinion of the United States consular meeting held at the United States legation in Madrid July 3 and 4 of this year. Of those embraced in classes 8, 9, and 12 I am just as sanguine. Of class 9 we already have a good share, and it needs only pushing to secure a fair share of the other classes.

The latest detailed statistics of our trade with Spain are for 1889. They show the value of our imports into Spain to have been 102,046,918 pesetas, while that of England reached the sum of 161,000,674 pesetas. I mention England because a respectable part of the goods she sells to Spain are of American origin.

IMPORTS FROM AND EXPORTS TO THE UNITED STATES.

Table showing the imports into Spain from the United States by articles for 1889.

Articles.		Quantity.	Value.
Class 1.			*Pesetas.**
Tar, pitch, asphalt, etc	kilogrammes	657,067	65,707
Petroleum:			
Raw	do	33,111,170	7,946,680
Refined	do	2,839,006	738,142
Other mineral oils	do	667,049	160,091
Class 3.			
Dyeing extracts	kilogrammes	27,122	26,580
Nitrate of soda and sulphate of ammonia	do	149,675	44,903
Pharmaceutical products	do	11,066	55,330
Class 4.			
Raw cotton	kilogrammes	51,068,895	71,496,453
Class 8.			
Books and other matter printed in the Spanish language	kilogrammes	18,939	63,446
Class 9.			
Staves	M	7,626	7,244,700
Ordinary wood and timbers for naval construction	cubic metres	40,951	2,170,403
Class 10.			
Tripes	kilogrammes	197,776	395,552
Class 11.			
Agricultural implements	kilogrammes	71,712	64,540
Industrial machinery	do	64,874	82,390
Wooden boats	number	†1	29,289
Class 12.			
Meats and lard	kilogrammes	2,962,297	3,406,642
Wheat	do	1,093,437	196,818
Other cereals	do	11,947,566	1,433,707
Packing boxes and wrappers	do	81,061	81,061
Special importations.			
Leaf tobacco	kilogrammes	9,759,360	5,953,210
Empty barrels and casks	do	113,716	47,760
Wines returned	do	30,781	40,015
Articles whose partial values did not reach 25,000 pesetas		.....	303,499
Total		.....	102,046,918

* 1 peseta=19.3 cents. † Of 113 tons.

Table showing the exports from Spain to the United States by articles for 1889.

Articles.		Quantity.	Value.
Class 1.			
Minerals:			*Pesetas.*
Copper	kilogrammes	19,209,670	729,967
Iron	do	206,241,000	2,268,651
Class 2.			
Lead in pigs	kilogrammes	325,840	107,527
Class 3.			
Licorice:			
Root	kilogrammes	1,515,900	454,770
Paste	do	20,046	28,064
Salt	do	8,405,315	126,080
Crude tartar and wine lees	do	70,298	147,626
Class 9.			
Casks, etc	kilogrammes	307,148	122,858
Cork:			
In sheets	kilogrammes	813,740	390,596
In squares	M	2,760	27,600
Stoppers	do	13,020	182,280
Palm, manufactured	kilogrammes	55,558	36,112
Class 12.			
Onions	kilogrammes	945,800	141,870
Almonds:			
In shell	do	626,977	595,628
Shelled	do	191,838	383,676
Olives	do	446,469	312,529
Raisins	do	9,936,287	5,961,773
Lemons	do	1,401,483	252,267
Oranges	do	1,907,350	381,470
Grapes	do	2,492,060	1,121,427
Olive oil, crude	do	171,196	150,654
Common wine	litres	1,283,245	384,973
Sherry	do	349,585	454,461
Sweet wines	do	187,538	168,804
Class 13.			
Hats:			
Felt	number	14,338	129,042
Other kinds	do	5,214	26,070
All other articles		.....	106,781
Total		.....	15,193,556

TRADE OF SPAIN WITH PRINCIPAL COUNTRIES.

Table showing the commerce with Spain of the principal nations in 1889.

Countries.	Imports.	Exports.
	Pesetas.	*Pesetas.*
France	264,292,090	386,476,180
England	161,000,674	207,346,307
United States	102,046,918	15,193,556
Germany	53,533,205	14,967,139
Belgium	29,974,342	19,934,940

IMPORTS FROM ENGLAND.

Table showing some of the imports from England into Spain in 1889 that could be supplied by the United States, about two-fifths being of American origin.

Articles.		Quantity.	Value.
Class 1.			*Pesetas.*
Tar, pitch, asphalt, etc.	kilogrammes	15,984,098	1,598,402
Vaselines, etc.	do	142,884	34,291
Class 3.			
Starch	kilogrammes	183,331	97,166
Paraffin, stearine, and wax	do	376,113	507,752
Dyeing extracts	do	242,333	237,486
Nitrate of soda and sulphate of ammonia	do	8,283,888	2,485,166
Class 4.			
Cotton:			
Raw	kilogrammes	1,028,853	1,440,395
Manufactured	do	1,091,599	7,473,593
Class 8.			
Paper and its products	kilogrammes	613,657	857,479
Class 9.			
Staves	M	591	561,450
Ordinary woods and timber for naval construction	cubic metres	17,420	493,260
Class 11.			
Agricultural implements	kilogrammes	306,758	276,082
Industrial machinery	do	3,995,407	4,794,488
Class 12.			
Meats and lards	kilogrammes	3,077,945	3,539,636
Wheat	do	2,371,390	426,850
Wheat flour	do	457,476	137,242
Other cereals	do	1,022,865	122,744
Cheese	do	60,950	121,900
Total		.....	25,635,382

DUTIES COLLECTED.

The following duties were collected by Spain upon imports from the above-named nations: France, 22,540,811 pesetas; England, 16,261,783 pesetas; United States, 9,224,431 pesetas; Germany, 10,207,421 pesetas; Belgium, 4,359,958 pesetas. Duties are very high on German spirits.

DEDUCTIONS.

The deductions to be made from the foregoing tables are:

(1) Under present conditions the United States is only led by France and England in the value of the goods sold to Spain.

(2) If the United States were credited with the amount of goods of American origin which England and France sell to Spain, it would be found that our interests in the Spanish markets are led by France only.

(3) The amount we buy of Spain, as shown by Spanish statistics, is an underestimate, because the greater part of these purchases go to the United States by way of England and are charged as English purchases. Then, again, our own statistics are an underestimate, because they do not include the vast amount of Spanish olives and wine which goes to the United States

from Bordeaux, nor of Spanish cork which goes to the United States from Portugal.

(4) For the very reasons that our interests in Spain are underestimated it follows that in the same ratio those of France and England are overestimated.

(5) I have no hesitancy in saying that all of these facts have convinced me that under proper cultivation our interests in the markets of Spain would lead those of France in less than 5 years. Canany one doubt that the meat and lard—to say nothing of staves, lumber, wheat, flour, and many other things which England sells to Spain—are of American origin?

FOREIGN TRADE OF SPAIN.

Table showing the quantity and value of imports into Spain during the first 6 months of the years 1890 and 1891.

Articles.	Quantity.		Value.	
	1890.	1891.	1890.	1891.
Class 1.—Stones, lime, minerals, glassware, and earthenware.				
Marble and jasper:			*Pesetas.*	*Pesetas.*
Rough, cut in pieces.....kilogrammes...	1,960,587	3,420,878	176,452	293,669
All other forms.....do.....	2,430,028	2,374,281	340,203	332,600
Other stones and earths.....do.....	37,188,822	44,387,784	1,673,397	1,808,699
Coal (mineral).....tons...	730,137	881,788	18,983,544	22,926,489
Coke.....do.....	163,504	143,105	4,251,100	3,720,730
Tar, pitch, asphalt, etc.*.....kilogrammes...	19,142,049	23,623,914	1,914,203	2,362,391
Petroleum: *				
Raw.....do.....	21,195,091	23,623,827	4,662,929	5,197,241
Refined.....do.....	1,564,083	533,262	391,119	133,317
Other mineral oils: *				
Raw.....do.....	891,725	1,472,158	196,179	323,874
Refined.....do.....	230,258	117,809	57,364	29,459
Vaseline, etc.*.....do.....	540,429	3,098,479	71,893	681,665
Benzine and gasoline*.....do.....	148,128	9,332	37,032	2,333
Minerals.....tons...	2,342	3,412	46,842	68,240
Glassware (common).....kilogrammes...	2,157,400	2,254,593	647,221	676,377
Crystals and their imitations.....do.....	579,973	498,652	985,953	847,609
Window glass.....do.....	1,102,638	1,324,726	882,111	1,059,781
Mirrors.....do.....	32,930	32,830	92,576	105,056
Bricks, tiles, etc.....do.....	18,994,932	14,026,786	1,329,645	981,874
Tiles of stone and of fine clay.....do.....	433,253	466,453	627,216	646,357
Porcelain.....do.....	197,528	266,990	493,818	531,613
Total.....	.....	.....	37,860,787	42,729,367
Class 2.—Metals and their manufactures.				
Iron:				
Cast (ingots) and old.....kilogrammes...	18,767,149	11,452,269	1,313,701	801,658
Manufactured—				
Tubes of all classes.....do.....	4,830,048	6,844,663	724,508	1,026,698
Common.....do.....	3,064,631	2,347,349	735,511	496,339
Fine.....do.....	622,607	678,987	410,963	448,134
Iron and steel rails.....do.....	21,902,082	8,382,198	4,302,367	1,505,795
Sheets:				
Above 6 millimetres in thickness.....do.....	1,955,021	2,354,452	430,105	517,979
Up to 6 millimetres thick, and bars...do.....	10,046,284	9,854,788	2,511,570	2,463,696
In large pieces.....do.....	4,513,924	3,537,949	1,444,455	1,132,143

* The trade in these goods should be controlled by the United States against all competition.

Table showing the quantity and value of imports into Spain, etc.—Continued.

Articles.	Quantity.		Value.	
	1890.	1891.	1890.	1891.
Class 2.—Metals and their manufactures—Cont'd.				
Iron—Continued.				
Manufactured—Continued.			*Pesetas.*	*Pesetas.*
Wire*.....kilogrammes...	2,262,392	3,049,344	791,837	1,067,269
Nails and screws*.....do.....	2,409,915	2,273,315	1,373,652	1,443,780
Tubes*.....do.....	1,822,062	1,841,490	601,280	706,691
Iron and steel manufactures.....do.....	4,411,394	3,259,851	3,529,115	2,607,881
Tin:				
Sheets.....do.....	1,536,568	1,029,016	799,016	585,089
Ingots.....do.....	262,011	308,535	655,027	771,340
Copper of first melting and old.....do.....	99,291	54,045	134,042	71,216
Copper and brass:				
Bars and ingots.....do.....	259,035	251,282	492,175	497,845
Sheets, nails, etc.....do.....	553,622	367,374	1,162,605	798,801
Tubes and large pieces.....do.....	146,648	222,163	359,288	559,767
Copper, bronze, and brass manufactures.....do.....	184,645	180,705	738,580	722,820
Total.....	.....	.....	22,509,797	18,227,938
*Class 3.—Drugs and chemical products.**				
Palm, cocoa, and other solid oils.....kilogrammes...	5,567,601	6,554,668	3,674,616	4,326,081
All other vegetable oils.....do.....	481,981	4,519,185	298,828	2,801,895
Roots for dyeing and tanning barks.....do.....	1,560,239	507,008	312,048	101,401
Oleaginous seeds.....do.....	4,085,154	6,138,328	1,225,545	1,841,499
Other vegetable products.....do.....	794,568	891,090	993,210	1,113,863
Indigo and cochineal.....do.....	132,349	132,872	1,389,665	1,395,157
Extracts for dyeing.....do.....	1,397,517	1,184,122	1,467,392	1,243,328
Varnishes.....do.....	174,344	209,696	318,688	419,392
Leads:				
Powdered or in *terron*.....do.....	1,000,386	1,045,722	700,270	732,006
Prepared and tinted.....do.....	217,264	227,724	325,894	341,586
Imitations.....do.....	107,985	60,745	971,865	546,705
Acids:				
Muriatic.....do.....	840,575	347,723	100,868	41,726
Nitric.....do.....	80,313	6,909	40,156	3,455
Sulphuric.....do.....	101,362	416,973	14,191	58,375
Sulphur.....do.....	10,858,990	5,799,062	1,411,668	753,878
Alkaloids and their salts.....do.....	596	612	59,600	61,200
Alum.....do.....	524,971	865,534	83,995	135,486
Carbonates and alkalines.....do.....	10,892,310	12,360,690	2,396,308	2,719,352
Chloride of lime.....do.....	1,918,608	1,663,499	498,838	432,510
Potassium, soda, etc.....do.....	604,822	454,221	60,481	45,223
Salt (common).....do.....	444,674	1,061,608	8,894	21,221
Glue and albumen.....do.....	299,883	341,200	269,894	307,081
Phosphorus.....do.....	29,102	36,574	145,510	182,870
Nitrate of potash.....do.....	767,237	590,990	421,981	325,044
Nitrate of soda.....do.....	6,971,240	9,673,670	2,088,372	2,902,100
Pharmaceutical products.....do.....	126,061	94,418	630,305	482,090
Unclassified chemical products.....do.....	2,528,255	1,540,268	2,528,255	1,540,268
Starch.....do.....	1,104,524	1,027,587	590,685	542,621
Compounded and chemical foods.....do.....	6,974,917	4,798,264	2,441,221	1,558,933
Paraffin, stearine, etc.:				
In bulk.....do.....	1,087,151	825,866	1,467,653	1,104,919
Manufactured.....do.....	153,487	122,594	257,658	202,280
Perfumery and essences.....do.....	68,955	70,038	551,640	512,301
Total.....	.....	.....	27,776,194	28,795,846

* The trade in these goods should be controlled by the United States against all competition.

Table showing the quantity and value of imports into Spain, etc.—Continued.

Articles.	Quantity.		Value.	
	1890.	1891.	1890.	1891.
*Class 4.—Cotton and its manufactures.**			*Pesetas.*	*Pesetas.*
Raw cotton.....kilogrammes...	27,933,109	40,601,885	39,106,353	56,842,640
Thread:				
Up to 35.....do.....	58,034	88,231	127,674	194,108
Above 36.....do.....	49,839	18,365	174,437	64,279
Twist of three or more threads.....do.....	134,629	153,048	942,403	1,071,336
Textures:				
Up to 25 threads.....do.....	642,612	621,729	2,987,781	2,911,395
Above 26 threads.....do.....	22,387	21,467	169,746	157,842
Stamped—				
Up to 25 threads.....do.....	326,829	287,118	2,274,548	1,997,101
Above 26 threads.....do.....	635	762	5,208	6,096
Diaphanous-like muslin.....do.....	56,492	63,477	520,316	609,370
Piqués.....do.....	20,854	19,608	160,637	150,882
Velvet and double textures.....do.....	24,401	37,604	221,696	340,027
Tulles.....do.....	14,153	11,310	169,703	133,923
Narrow lace, except crocheted.....do.....	9,826	6,998	236,304	168,852
Knit goods, crocheted.....do.....	19,811	21,617	179,565	196,043
Hosiery, etc.....do.....	28,786	29,040	202,658	204,803
Socks and underwear.....do.....	52,710	42,174	427,418	339,808
Total.....	.....	.....	47,906,447	65,388,505
*Class 5.—Vegetable fibers and their manufactures.**				
Hemp (raw).....kilogrammes...	2,697,679	2,593,613	2,415,146	2,334,253
Flax (raw).....do.....	24,666	26,694	24,656	26,694
Jute and manilla grass (raw).....do.....	5,572,136	4,457,924	2,531,153	2,006,065
Hemp or flax yarns.....do.....	1,852,341	1,724,611	7,131,112	6,639,753
Jute and manilla grass yarns.....do.....	2,551,397	3,527,779	1,796,462	2,469,446
Thread textures:				
Plain (10 threads).....do.....	10,974	13,075	46,221	53,066
From 11 to 24 threads.....do.....	86,432	99,853	1,113,342	1,289,991
From 25 threads upwards.....do.....	6,186	3,990	149,223	93,766
Crossed and labored.....do.....	42,488	57,962	433,637	598,366
Laces.....do.....	360	522	90,375	131,250
Knit textures.....do.....	235	347	6,287	8,675
Jute and Spanish grass textures.....do.....	55,611	66,517	110,896	133,591
Crossed and labored.....do.....	80,997	143,581	526,696	736,706
Total.....	.....	.....	16,375,206	16,521,622
Class 6.—Wool, hair, and their manufactures.				
Bristles and hairs (raw).....kilogrammes...	97,260	214,504	350,078	772,213
Wool:				
Unwashed.....do.....	62,504	270,816	138,212	595,795
Washed.....do.....	754,594	907,082	3,437,080	4,081,869
Combed or carded.....do.....	211,630	245,035	1,096,442	1,249,679
Yarn:				
Dirty.....do.....	50	4,950	325	32,175
Clean.....do.....	28,540	34,977	272,292	332,283
Dyed.....do.....	14,066	11,123	155,049	122,353
Carpets.....do.....	51,611	76,280	201,341	297,492
Felts.....do.....	29,816	49,028	105,644	182,191
Blankets.....do.....	2,113	1,522	16,904	12,476
Knit textures.....do.....	36,729	25,820	727,244	485,352
Woolen cloth:				
Pure.....do.....	117,135	108,806	1,904,356	1,762,736
Mixed with cotton.....do.....	32,955	40,550	300,981	368,972

* The trade in these goods should be controlled by the United States against all competition

Table showing the quantity and value of goods imported into Spain, etc.—Continued.

Articles.	Quantity.		Value.	
	1890.	1891.	1890.	1891.
Class 6.—Wool, hair, and their manufactures—Cont'd.				
Other textures:			*Pesetas.*	*Pesetas.*
Pure wool.....kilogrammes...	216,411	214,889	3,582,908	3,523,076
Mixed with cotton.....do.....	268,330	271,708	2,482,442	2,486,270
Total.....	.....	.....	14,771,238	16,304,932
Class 7.—Silk and its manufactures.				
Silk:				
Raw.....kilogrammes...	57,057	59,476	2,339,337	2,438,516
Twisted.....do.....	1,041	2,169	63,501	132,309
Floss silk:				
Combed.....do.....	470	759	9,870	15,939
Thread, untwisted.....do.....	8,197	9,130	221,319	246,510
Twisted.....do.....	14,172	12,346	595,224	518,532
Silk textures, pure.....do.....	20,770	19,801	2,261,156	2,143,846
Plushes, etc., of pure silk.....do.....	556	553	84,120	91,302
Textures of raw and silk floss.....do.....	7,460	6,887	392,886	371,293
Tulles, laces, and crocheted silk.....do.....	6,557	5,775	954,802	797,512
Knit silk.....do.....	3,182	2,599	229,842	188,712
Velvet and plushes mixed with cotton.....do.....	4,871	5,912	278,613	327,334
Other textures:				
Mixed with cotton.....do.....	50,196	43,646	1,564,487	1,372,493
Mixed with wool.....do.....	6,097	5,878	190,898	178,575
Total.....	.....	.....	9,186,055	8,822,892
*Class 8.—Paper and its manufactures.**				
Printing paper.....kilogrammes...	946,292	596,843	567,776	358,105
Lithographing and engraving.....do.....	455,398	282,346	614,788	354,167
Ruled paper (handmade).....do.....	153,852	119,380	307,704	238,750
Books:				
Printed in Spanish.....do.....	46,534	63,665	155,889	213,279
Printed in foreign languages.....do.....	87,644	96,583	175,288	193,166
Maps, engravings, and designs.....do.....	28,228	27,659	705,700	671,475
Paper stamped with gold, etc.....do.....	38,540	19,566	192,770	97,830
Other classes.....do.....	185,164	187,395	370,328	374,790
Brown.....do.....	840,605	983,984	504,363	590,391
Unclassified.....do.....	122,564	117,382	367,692	354,846
Total.....	.....	.....	3,962,228	3,476,799
*Class 9.—Lumber and its manufactures.**				
Staves.....M...	8,037	7,612	7,634,607	7,131,079
Lumber:				
Deals, plank, and heavy.....metres...	211,366	179,810	10,568,300	8,990,500
Fine.....kilogrammes...	1,390,049	844,694	458,716	278,749
Boards.....do.....	71,138	113,075	39,836	63,322
Casks, finished or unfinished.....do.....	714,381	966,487	300,039	405,923
Manufactured:				
Common.....do.....	1,182,959	1,266,685	2,365,918	2,533,370
Fine.....do.....	412,178	391,917	1,030,444	979,792
Gilded objects.....do.....	91,515	81,107	512,485	454,239
Spanish grass, sea grass, etc.....do.....	2,545,753	3,192,553	509,150	638,511
Paste for manufacturing paper†.....do.....	4,181,889	5,089 233	836,397	1,017,847
Total.....	.....	.....	24,255,892	22,493,332

* The trade in these goods should be controlled by the United States against all competition.

† The amounts and values for 1889 are not known; it was not classified until January 1, 1890.

Table showing the quantity and value of imports into Spain, etc.—Continued.

Articles.	Quantity.		Value.	
	1890.	1891.	1890.	1891.
Class 10.—Animals and their products.			*Pesetas.*	*Pesetas.*
Geldings.....number...	66	52	59,400	46,800
Other horses.....do.....	1,021	178	755,540	131,720
Mules.....do.....	2,778	1,431	1,111,200	572,400
Asses.....do.....	354	151	21,240	9,060
Cattle.....do.....	4,624	4,227	924,800	845,400
Swine.....do.....	5,649	9,144	564,900	914,400
Sheep and goats.....do.....	16,613	39,902	249,195	598,530
Hides.....kilogrammes...	3,904,864	4,388,904	5,857,296	6,583,356
Patent leather (tanned).....do.....	41,036	52,360	656,576	837,760
Belts for machinery*.....do.....	33,349	34,820	300,141	313,380
Animal grease.....do.....	6,735,086	9,268,818	4,377,806	6,024,732
Fertilizers.....do.....	24,832,863	34,549,376	5,403,230	7,600,863
Other kinds of leather (tanned)*.....do.....	93,441	90,049	934,410	900,490
Total.....	.....	.....	21,275,734	25,378,891
Class 11.—Machinery, carriages, and vessels.				
Machinery:*				
Agricultural.....kilogrammes...	398,737	722,997	385,864	650,297
Motory.....do.....	4,430,818	4,810,981	5,316,983	5,773,177
Copper.....do.....	109,763	160,672	402,623	594,486
Other material.....do.....	11,841,356	9,985,754	15,334,556	12,930,551
Carriages:*				
4-seated berlinas or coaches.....number...	14	4	56,000	16,000
2-seated berlinas.....do.....	10	7	28,000	19,600
2 or 4 wheels (other styles).....do.....	45	37	56,250	50,900
Railway carriages.....kilogrammes...	460,994	446,958	497,873	322,011
Other kinds of railway carriages.....do.....	3,174,461	2,008,822	1,587,131	1,054,411
Carts.....do.....	831,280	640,220	332,512	256,089
Vessels:				
Wooden—				
Up to 50 tons.....number...	15	11	23,297	18,664
Do.....tons...	89,729	71,928		
From 51 to 300 tons.....number...	1	1	21,268	31,906
Do.....tons...	82,053	123,095		
Over 300 tons.....number...	2	3	329,463	647,095
Do.....tons...	1,271,075	2,496,473		
Iron and steel.....number...	12	5	2,862,571	1,255,214
Do.....tons...	8,807,912	3,862,197		
Total.....	.....	.....	27,234,391	23,620,461
*Class 12.—Grain and food.**				
Fowls and small game.....kilogrammes...	894,188	1,071,647	1,788,376	2,143,294
Salt and smoked meat.....do.....	95,622	194,878	55,461	113,029
Pork and lard.....do.....	4,055,672	2,525,528	4,055,672	2,525,528
Other kinds of meat.....do.....	13,319	6,144	12,653	5,834
Butter.....do.....	70,206	75,655	252,742	272,358
Fish:				
Cod.....do.....	21,926,764	19,032,197	13,813,860	11,990,286
Fresh.....do.....	1,914,259	3,113,191	478,564	778,296
Smoked.....do.....	43,789	59,118	24,083	32,514
Rice (clean).....do.....	1,737,008	597,763	521,103	179,329
Wheat:				
From the United States.....do.....	621,510	20,400	111,872	3,672
From France.....do.....	12,625,044	7,738,518	2,272,507	1,392,934
From Russia.....do.....	47,615,410	64,093,854	8,570,773	11,296,894

* The trade in these goods should be controlled by the United States against all competition.

Table showing the quantity and value of imports into Spain, etc.—Continued.

Articles.	Quantity.		Value.	
	1890.	1891.	1890.	1891.
Class 12.—Grain and food—Continued.*				
Wheat—Continued.			*Pesetas.*	*Pesetas.*
From Turkey.....kilogrammes...	8,409,668	10,287,170	1,523,740	1,851,691
From other countries.....do.....	2,424,998	6,088,010	436,498	1,095,841
Total.....do.....	71,696,630	88,227,952	12,915,390	15,641,032
Wheat flour:				
From Germany.....do.....	23,755	.....	7,126	.....
From Austria.....do.....	97,220	39,550	29,166	11,865
From Belgium.....do.....	168,012	26,730	50,404	8,019
From France.....do.....	13,920,474	3,362,785	4,176,143	1,008,835
From other countries.....do.....	335,376	289,202	100,613	86,760
Total.....do.....	14,544,837	3,718,267	4,363,452	1,115,479
All other cereals:				
From France.....do.....	7,414,719	6,993,981	1,038,061	979,158
From Roumania.....do.....	435,016	40,000	60,902	5,600
From Morocco.....do.....	5,830,175	5,470,895	816,224	765,936
From Russia.....do.....	2,256,977	2,531,765	315,977	354,447
From Turkey.....do.....	657,370	1,005,235	92,032	140,733
From other countries.....do.....	38,426,133	16,918,238	5,379,658	2,368,554
Total.....do.....	55,020,390	32,960,114	7,702,854	4,614,428
Flour of above cereals.....do.....	74,800	10,503	17,804	2,415
Dried vegetables.....do.....	15,845,942	20,906,331	3,803,025	5,017,520
Sugar:				
From Cuba.....do	91,774,353	23,000,725	19,064,611	13,800,435
From Porto Rico.....do.....	10,296,825	6,016,605	6,178,095	3,609,963
From Philippine Islands.....do.....	1,822,733	1,182,735	1,093,640	302,341
From France..... ...do.....	47,291	32,355	30,738	21,030
From other countries.....do.....	323,310	282,531	210,152	183,645
Total.....do.....	44,264,512	30,514,951	26,577,236	17,917,414
Caracas cocoa:				
From Venezuela.....do.....	857,553	609,232	1,800,861	1,278,019
From other countries.....do.....	104,848	94,500	220,181	198,450
Total.....do.....	962,401	703,732	2,021,042	1,476,469
Guayaquil cocoa:				
From Cuba.....do.....	702,631	620,329	1,299,867	1,147,710
From Porto Rico.....do.....	48,704	88,297	90,103	163,350
From Philippine Islands.....do.....	105	.....	194	.....
From Ecuador.....do.....	1,591,735	606,390	3,183,470	1,212,780
From other countries.....do.....	564,635	710,715	1,129,270	1,421,430
Total.....do.....	2,907,810	2,025,731	5,702,904	3,945,270
Coffee:				
From Cuba.....do.....	75,537	83,563	162,394	179,656
From Porto Rico.....do.....	2,154,141	2,414,711	4,631,407	5,191,628
From Philippine Islands.....do.....	1,039,826	1,468,340	2,235,626	3,156,931
From Mexico.....do.....	1,846	2,428	4,064	5,342
From other countries.....do.....	77,666	75,416	170,732	165,915
Total.....do.....	3,348,956	4,044,458	7,204,223	8,699,472
Cinnamon.....do.....	119,824	127,973	479,296	511,802
Other kinds.....do.....	37,380	23,747	37,380	23,747

* The trade in these goods should be controlled by the United States against all competition.

Table showing the quantity and value of imports into Spain, etc.—Continued.

Articles.	Quantity.		Value.	
	1890.	1891.	1890.	1891.
Class 12.—Grain and food—Continued.*			*Pesetas.*	*Pesetas.*
Pepper ....kilogrammes...	128,876	123,086	231,978	221,555
Tea....do.....	54,370	40,626	108,740	81,252
Spirits:				
From Cuba....hectolitres...	19,050	37,160	665,750	1,299,100
From Porto Rico....do.....	753	729	26,355	25,515
From Philippine Islands....do.....	1	.....	35	.....
From Germany....do.....	160,026	118,344	7,041,144	5,207,136
From France....do.....	3,194	11,792	140,536	518,848
From Sweden....do.....	54,810	26,863	2,411,640	1,181,97-
From other countries....do.....	7,493	11,474	329,692	504,812
Total....do.....	245,327	206,362	10,615,152	8,737,383
Champagne....do.....	917	1,315	458,500	657,500
Other kinds....do.....	6,392	6,132	958,800	919,800
Preserved foods....kilogrammes...	72,383	54,740	361,915	273,700
Sweets....do.....	150,226	121,050	450,678	363,150
Soup paste, etc....do.....	1,453,808	1,502,411	653,214	676,085
Cheese....do.....	627,050	735,939	1,254,100	1,471,878
Total grain and food....	.....	.....	106,920,197	90,407,909
Class 13.—Sundries.				
Ornaments....kilogrammes...	4,318	3,945	237,400	216,975
Amber, bones, etc....do.....	65,533	87,569	655,330	875,690
Manufactured....do.....	6,741	4,868	168,525	121,700
Buttons, all kinds....do.....	148,312	157,882	741,500	789,410
Playing games and toys....do.....	82,798	84,837	496,788	509,022
Passementeries:				
Silk....do.....	1,510	1,267	75,500	63,350
Wool....do.....	12,955	13,530	129,550	121,980
Other classes....do.....	31,602	32,536	252,816	260,288
Elastic goods....do.....	40,761	42,964	582,939	607,962
Total....	.....	.....	3,340,498	3,566,377

* The trade in these goods should be controlled by the United States against all competition.

RÉSUMÉ.

Classes.	1890.	1891.
	Pesetas.	*Pesetas.*
Class 1 (minerals, glassware, stones, etc.)....	37,860,787	42,729,367
Class 2 (metals and manufactures)....	22,509,797	18,227,938
Class 3 (drugs, medicines, etc.)....	27,776,194	28,795,846
Class 4 (cotton and manufactures)....	47,906,447	65,388,505
Class 5 (vegetable fibers and manufactures)....	16,375,206	16,521,622
Class 6 (wool and manufactures)....	14,771,238	16,304,932
Class 7 (silk and manufactures)....	9,186,055	8,822,892
Class 8 (paper and manufactures)....	3,962,228	3,476,799
Class 9 (wood and manufactures)....	24,255,892	22,493,332
Class 10 (animals and their products)....	21,275,734	25,378,891
Class 11 (machinery, vessels, etc.)....	27,234,391	23,690,401
Class 12 (cereals and breadstuffs)....	106,920,197	90,407,909
Class 13 (sundries)....	3,340,498	3,566,377
Total....	363,374,664	365,804,811

Table showing the quantity and value of exports from Spain during the first 6 months of the years 1890 and 1891.

Articles.	Quantity.		Value.	
	1890.	1891.	1890.	1891.
Class 1.—Minerals, ceramic, etc.			*Pesetas.*	*Pesetas.*
Coal.....tons...	12,114	6,202	314,964	161,252
Tar, pitch, etc.....kilogrammes...	1,548,859	1,794,016	201,352	233,222
Galena:				
Not argentiferous.....do.....	420,971	435,678	105,243	108,920
Argentiferous.....do.....	4,101,720	3,905,263	1,763,739	1,679,263
Other minerals of lead.....do.....	376,224	933,367	86,532	214,674
Blende.....do.....	9,030,410	4,947,000	207,699	207,441
Calamine.....do.....	19,636,025	15,819,702	648,689	522,050
Phospholite.....do.....	.....	1,435,000	.....	14,350
Minerals:				
Antimony.....do.....	324,685	289,990	97,406	86,997
Copper.....do.....	328,180,751	385,936,981	12,475,868	14,425,605
Mata cobriza.....do.....	13,974,990	10,688,980	810,549	619,961
Iron ore.....do.....	3,054,229,330	2,198,789,550	33,596,523	24,186,684
Pyrites of iron.....do.....	86,940,883	87,729,295	869,409	877,293
Manganese.....do.....	4,520,000	880	212,440	41
Stones and mosaics.....do.....	380,011	543,309	94,992	135,828
Tiles:				
Painted with colors.....do.....	156,430	158,652	62,584	63,461
Common.....do.....	61,336	31,150	49,068	24,919
Fine and porcelain.....do.....	19,102	8,353	19,102	8,353
Total.....	.....	.....	51,616,159	43,486,314
Class 2.—Metals and their manufactures.				
Gold:				
Bars and coin.....	.....	.....	130,510	165,850
Jewels and table service.....	.....	.....	15,500	31,000
Silver:				
Bars and coin.....	.....	.....	3,038,220	668,460
Jewels and table service.....	.....	.....	12,908	1,680
Jewelers' waste.....kilogrammes...	6,473	7,727	97,095	115,755
Iron (ingots).....do.....	47,775,859	26,940,098	3,822,069	2,155,206
Wrought iron and steel bars.....do.....	400,203	1,153,410	140,071	403,694
Railway rails (old).....do.....	6,934,769	2,699,880	485,434	188,9[illegible]
Iron goods.....do.....	546,378	2,344,761	300,508	1,289,613
Copper:				
Shell.....do.....	21,281,022	17,455,963	15,960,766	13,091,[illegible]72
Black and old.....do.....	9,832	21,443	13,273	28,[illegible]48
Bars.....do.....	.....	5,030	.....	9,556
Sheets and nails.....do.....	31,408	50,066	75,379	120,158
Brass sheets.....do.....	11,937	17,708	25,173	37,187
Copper, brass, and bronze manufactures.....do.....	30,012	19,649	150,060	98,245
Quicksilver or mercury.....do.....	947,002	1,822,823	5,492,612	8,482,572
Pig lead:				
Argentiferous.....do.....	42,716,297	35,434,925	24,355,452	20,552,256
Poor in silver.....do.....	27,451,962	31,907,445	9,059,147	10,519,457
Lead:				
In tubes.....do.....	5,015	7,300	2,256	3,285
Other objects.....do.....	209,162	157,326	79,481	59,784
Zinc bars and sheets.....do.....	711,753	986,845	370,111	513,160
All other metals and their alloys.....do.....	234,136	31,281	702,408	93,839
Total.....	.....	.....	64,328,433	58,630,674

Table showing the quantity and value of exports from Spain, etc.—Continued.

Articles.	Quantity.		Value.	
	1890.	1891.	1890.	1891.
Class 3.—Drugs and chemical products.				
Oil:			*Pesetas.*	*Pesetas.*
Almond.....kilogrammes...	916	1,607	2,840	4,981
Peanut and other seed.....do.....	75,875	93,549	64,494	79,517
Olive lees.....do.....	4,000	.....	1,520	.....
Barks for tanning.....do.....	1,183,934	1,107,812	236,787	221,562
Peanuts.....do.....	187,452	239,738	71,231	91,100
Licorice:				
Root.....do.....	1,460,366	1,638,721	438,110	491,617
Paste and extract.....do.....	409,450	352,135	573,230	492,989
Vegetable products (unclassified).....do.....	333,645	237,421	367,010	261,163
Sulphur.....do.....	43,847	313,251	5,699	40,722
Tartar and lees of wine.....do.....	2,846,925	2,968,161	5,693,850	5,936,322
Cream of tartar.....do.....	213,851	303,597	534,628	758,993
Soap, common.....do.....	3,104,583	3,680,030	1,862,749	2,208,036
Candles.....do.....	615,616	753,450	1,015,767	1,243,192
Perfumery and essences.....do.....	24,809	16,209	198,472	129,432
Choride of sodium.....do.....	142,261,976	109,764,281	2,133,931	1,646,464
Total.....	.....	.....	13,200,318	13,606,090
Class 4.—Cotton manufactures.				
Cotton textures:				
White.....kilogrammes...	1,034,458	987,797	4,655,061	4,444,987
Dyed and stamped.....do.....	571,816	375,394	3,859,758	2,533,910
Knit goods.....do.....	311,737	396,098	1,870,422	2,376,588
Total.....	.....	.....	10,385,241	9,355,485
Class 5.—Vegetable fibers and their manufactures.				
Hemp and flax yarns.....kilogrammes...	12,102	18,446	29,649	45,193
Rigging and cordage.....do.....	254,202	186,781	292,332	214,798
Thread textures.....do.....	45,137	135,918	270,822	815,508
Printed textures.....do.....	280	11,964	2,800	119,640
Other vegetable-fiber textures.....do.....	8,622	5,537	12,934	8,304
Lace.....do.....	2,221	2,401	488,620	528,220
Total.....	.....	.....	1,097,157	1,731,663
Class 6.—Wool and its manufactures.				
Wool:				
Unwashed.....kilogrammes...	2,579,985	1,716,064	4,385,974	2,917,309
Washed.....do.....	10,340	20,335	41,361	81,340
Blankets.....do.....	6,936	2,720	55,488	21,760
Knit textures.....do.....	2,411	653	38,576	10,448
Woolen cloth:				
Pure.....do.....	62,395	28,996	1,123,110	453,438
Mixed with cotton.....do.....	6,665	14,681	66,650	146,810
Other textures of cloth:				
Pure.....do.....	51,549	32,865	670,137	427,245
Mixed with cotton.....do.....	19,551	23,826	175,959	214,434
Total.....	.....	.....	6,557,254	4,272,784
Class 7.—Silk and its manufactures.				
Silk:				
In cocoons.....kilogrammes...	1,500	5,865	21,000	82,110
Waste.....do.....	20,063	15,339	240,756	184,068
Raw.....do.....	11,448	15,864	550,952	777,336
Sewing.....do.....	207	461	12,006	26,738
Velvet.....do.....	155	.....	22,475	.....
Lace.....do.....	7	2	7,000	2,000

Table showing the quantity and value of exports from Spain, etc.—Continued.

Articles.	Quantity.		Value.	
	1890.	1891.	1890.	1891.
Class 7.—Silk and its manufactures—Continued.				
Textures:			*Pesetas.*	*Pesetas.*
Plain ... kilogrammes	3,685	5,754	350,075	546,630
Figured ... do	561	679	81,345	98,455
Total			1,285,609	1,717,337
Class 8.—Paper and its manufactures.				
Printing ... kilogrammes	629,815	215,492	440,871	146,845
Handmade ... do	480,469	320,078	416,798	544,133
Letter paper and envelopes ... do	17,102	11,057	25,654	16,584
Cigarette ... do	624,063	511,753	1,872,189	1,535,259
Books and music paper ... do	372,121	373,911	1,116,363	1,121,733
Engraving ... do	43,242	29,797	876,275	675,825
Packing ... do	417,798	826,614	271,569	537,298
Total			5,419,719	4,577,677
Class 9.—Lumber and other articles.				
Lumber ... kilogrammes	16,516,989	21,760,489	1,321,360	1,740,838
Cork:				
Sheets ... do	1,202,155	1,858,202	577,036	891,931
In small pieces ... M	5,333	9,530	53,330	95,300
For bottles ... do	783,940	875,221	10,975,160	12,253,094
In other forms ... kilogrammes	1,572,659	166,091	235,898	24,913
Spanish grass ... do	26,140,964	27,302,612	3,136,916	2,276,314
Manufactured ... do	298,426	259,759	83,559	72,733
Rags for paper manufacturing ... do	15,823	450	5,539	158
Total			16,388,798	18,355,281
Class 10.—Animals and animal products.				
Horses ... number	2,079	2,256	1,039,500	1,128,000
Mules ... do	869	611	390,750	274,950
Asses ... do	323	572	22,610	40,040
Cattle ... do	27,885	19,477	9,062,615	6,330,025
Sheep ... do	6,894	5,670	103,410	85,050
Goats ... do	1,634	995	24,516	14,925
Swine ... do	3,773	5,976	377,300	546,021
Skins:				
Sheep ... do	474,380	818,643	719,528	1,473,557
Goat ... do	347,324	168,489	1,302,467	639,535
Other ... do	292,809	347,699	468,495	556,318
Sole ... do	31,753	43,276	286,047	389,484
Tanned hides:				
Sole leather ... do	6,284	13,830	43,988	96,810
Calf hides (dressed) ... do	38,525	67,708	420,475	744,788
Sheepskins (dressed) ... do	151,241	100,652	907,446	603,912
Boots and shoes ... do	488,461	597,046	7,815,360	9,552,896
Total			22,984,501	22,476,311
Class 11.—Machinery.				
Machinery ... kilogrammes	272,296	466,010	345,815	591,833
Class 12.—Grain and food.				
Fowl and game ... kilogrammes	26,817	44,854	53,634	89,708
Fresh meat ... do	1,829	38	1,829	38
Hams and salt meat ... do	98,911	118,260	158,257	189,216
Bacon and lard ... do	33,564	38,445	50,346	57,667
Butter ... do	143,017	128,493	400,448	359,782
Rice ... do	3,085,807	1,807,617	1,297,865	723,048

Table showing the quantity and value of exports from Spain, etc.—Continued.

Articles.	Quantity.		Value.	
	1890.	1891.	1890.	1891.
Class 12.—Grain and food—Continued.				
Fish:			*Pesetas.*	*Pesetas.*
Fresh.....kilogrammes...	492,349	573,576	128,088	143,893
Lobsters and all shellfish.....do.....	67,705	110,339	101,558	165,508
Sardines.....do.....	996,639	1,883,862	448,487	532,737
All other (smoked).....do.....	458,524	554,620	435,588	526,888
Barley.....do.....	48,540	1,735	7,766	278
Rye.....do.....	457,951	167,349	73,270	26,766
Indian corn.....do.....	9,728	6,603	1,459	991
Wheat.....do.....	581,273	525,016	104,629	94,504
Other cereals.....do.....	909,762	240,187	136,465	36,028
Wheat flour.....do.....	14,111,333	22,592,889	4,514,615	7,219,754
Chick-peas.....do.....	2,192,169	2,157,788	1,206,092	1,186,783
Other dried vegetables.....do.....	1,152,331	1,292,674	322,652	361,949
Garlic.....do.....	1,231,966	1,328,949	739,179	797,369
Onions.....do.....	2,369,425	3,488,293	331,720	488,361
Beans (green).....do.....	42,278	16,144	12,683	4,843
Potatoes.....do.....	1,557,087	3,604,410	271,279	396,485
Other vegetables.....do.....	1,578,951	2,850,402	189,476	342,048
Olives.....do.....	2,725,515	2,178,131	2,044,137	1,622,598
Almonds:				
In shell.....do.....	961,760	179,255	961,760	179,255
Shelled.....do.....	562,189	470,042	1,208,706	1,010,590
Filberts.....do.....	1,679,351	2,079,397	890,055	1,102,080
Chestnuts.....do.....	211,640	105,596	46,561	23,232
Figs (dried).....do.....	651,424	576,405	162,857	144,102
Walnuts.....do.....	8,119	13,917	2,760	4,732
Raisins.....do.....	1,196,304	1,618,840	669,930	906,550
Other dried fruits.....do.....	138,123	70,862	55,249	28,345
Pomegranates.....do.....	.....	358	.....	72
Lemons.....do.....	1,523,671	251,366	274,261	45,246
Oranges.....do.....	65,390,980	39,346,174	11,770,377	7,082,311
Grapes.....do.....	2,589	34,587	1,217	16,256
Other fresh fruits.....do.....	987,244	353,399	236,938	84,802
Aniseed.....do.....	324,768	300,218	324,768	300,218
Saffron.....do.....	16,377	18,028	1,637,700	1,802,800
Cumin.....do.....	35,475	24,103	39,022	26,513
Capsicums.....do.....	645,904	637,294	516,723	509,836
Olive oil.....do.....	8,563,732	6,331,237	7,707,359	5,698,112
Carob.....do.....	39,713	13,103	3,971	1,310
Canary seed.....do.....	322,893	346,618	87,175	93,587
Preserved foods.....do.....	2,456,823	2,184,300	3,785,229	3,276,451
Sausage.....do.....	157,253	157,671	786,265	788,355
Chocolate.....do.....	136,371	174,006	409,113	522,018
Sweets.....do.....	27,699	36,138	69,250	90,317
Spirits (common).....hectolitres...	3,716	3,379	222,960	202,740
Liquors of aniseed.....do.....	3,917	4,847	274,190	339,290
Spirits of wine.....do.....	241	82	18,075	6,150
Soup pastes.....kilogrammes...	592,882	735,763	326,085	415,669
Common wine:				
To France.....hectolitres...	3,609,465	5,026,116	108,283,950	150,783,480
To England.....do.....	41,346	51,451	1,240,380	1,543,530
To the rest of Europe and Africa.....do.....	70,659	85,671	2,119,770	2,570,130
To foreign America.....do.....	227,071	202,654	6,812,130	6,079,620
To Asia and Oceanica.....do.....	13,548	14,376	406,440	431,280
To Cuba and Porto Rico.....do.....	266,939	228,144	8,008,170	6,844,320
Total.....do.....	4,229,028	5,608,412	126,870,840	168,252,360

Table showing the quantity and value of exports from Spain, etc.—Continued.

Articles.	Quantity.		Value.	
	1890.	1891.	1890.	1891.
Class 12.—Grain and food—Continued.				
Sherry:			*Pesetas.*	*Pesetas.*
To France.....hectolitres...	32,160	47,650	4,180,800	6,194,500
To England.....do.....	53,399	48,722	6,941,870	6,333,860
To the rest of Europe and Africa.....do.....	10,383	10,136	1,349,790	1,317,680
To Cuba and Porto Rico.....do.....	1,231	1,100	160,030	143,000
To foreign America.....do.....	13,422	10,862	1,744,860	1,412,060
To Asia and Oceanica.....do.....	362	275	47,060	35,750
Total.....do.....	110,957	118,745	14,424,410	15,436,850
Other wines:				
To France.....do.....	22,925	16,905	2,153,250	1,521,450
To England.....do.....	3,142	1,891	282,770	170,190
To the rest of Europe and Africa.....do.....	4,390	3,388	395,100	304,920
To Cuba and Porto Rico.....do.....	515	480	46,350	43,200
To foreign America.....do.....	3,379	2,193	304,110	197,370
To Asia and Oceanica.....do.....	59	92	5,310	8,280
Total.....do.....	34,410	24,949	3,186,890	2,245,410
Total grain and food.....	.....	.....	189,897,218	226,002,331
Class 13.—Sundries.				
Fans.....kilogrammes...	25,624	14,729	640,600	368,225
Acpargate or hemp shoe.....do.....	56,677	26,504	680,124	308,048
Wax light.....do.....	21,074	10,674	42,148	21,348
Playing cards.....do.....	105,169	65,826	525,845	329,130
Total.....	.....	.....	1,888,717	1,026,751

RÉSUMÉ.

Classes.	1890.	1891.
	Pesetas.	*Pesetas.*
Class 1 (minerals, glassware, stones, etc.).....	51,616,159	43,486,314
Class 2 (metals and manufactures).....	64,328,433	58,630,674
Class 3 (drugs, medicines, etc.).....	13,200,318	13,606,090
Class 4 (cotton and manufactures).....	10,385,241	9,355,485
Class 5 (vegetable fibers and manufactures).....	1,097,157	1,731,663
Class 6 (wool and manufactures).....	6,557,254	4,272,784
Class 7 (silk and manufactures).....	1,285,609	1,717,337
Class 8 (paper and manufactures).....	5,419,719	4,577,677
Class 9 (wood and manufactures).....	16,388,798	18,355,281
Class 10 (animals and their products).....	22,984,501	22,476,311
Class 11 (machinery, vessels, etc.).....	345,815	591,833
Class 12 (cereals and breadstuffs).....	189,897,218	226,002,331
Class 13 (sundries).....	1,888,717	1,026,751
Total.....	385,394,939	405,830,531

R. W. TURNER,
Consul.

UNITED STATES CONSULATE,
Cadiz, August 12, 1891.

LONG-DISTANCE TRANSMISSION OF ELECTRICITY.

REPORT BY CONSUL-GENERAL MASON, OF FRANKFORT.

In a previous report of this series, describing the opening of the International Electrical Exhibition at Frankfort in May last, it was stated that preparations were in progress to test, by methods hitherto untried, the transmission of a powerful electrical current over a distance of more than 100 miles upon naked metal conductors of small diameter strung above ground upon poles, like the wires of an ordinary telegraph. The proposition was to create a current of 200 to 300 horse-power by means of a dynamo driven by water-power at Lauffen, on the River Neckar, 108 miles south of Frankfort, convert it into a current of intense pressure by means of specially devised transformers, transmit it to the Frankfort exhibition, there retransform it to a current of ordinary pressure, and in that form apply it to motive and lighting purposes. The points to be determined by the experiments were whether this could be done with safety without too great a loss or waste through imperfect insulation and with such economy as to render the process industrially practicable.

The most important essay of this kind previously undertaken had been at the Munich Exhibition in 1882, when a continuous current of 2,000 volts was transmitted without conversion from Miesbach to Munich, a distance of 37 miles. The electric motor then used was similar in construction to the generating dynamo, and, as no specially perfect method of insulation was used, the loss of energy in transmission amounted to over 50 per cent., a wasteful and unsatisfactory result.

The present experiment has been undertaken through the enterprise of two powerful manufacturing firms—the Allgemeine Elektricitäts Gesellschaft, of Berlin, and the Maschinenfabrik, at Oerlikon, Switzerland. The cost of the plant has been about $180,000, one-third of which expense is borne by each of the firms named, while the remainder is paid as a subsidy by the management of the Frankfort Exhibition.

The erection of the machinery was begun early last winter, but so great was the task that it was finished only about the middle of August. Then followed a series of official safety tests by the governments of the several provinces through which the conducting lines pass, after which the motor, which had been set up at Frankfort to receive the current, was found to be defective and had to be replaced, so that it was not until the second week in September that the system was in such full and perfect operation that the measure of its success could be tested and declared. This has now been done, with the result that fully 75 per cent. of the energy created in Lauffen is available in Frankfort. Part of the current is used to illuminate 1,200 arc lights, while the remainder drives a powerful rotary pump, which draws water from the River Main and forces it to the crest of an artificial hill in the ex-

hibition grounds, whence it tumbles in a pretty waterfall. The circuit is thus rendered complete; the falling torrent at Lauffen, transmitting its energy over three delicate copper wires, produces a brilliantly illuminated waterfall at Frankfort.

In view of the incalculable value of this result, a somewhat detailed catalogue of the machinery employed will be requisite. Divested as far as practicable of technical nomenclature, the apparatus may be briefly described as follows: At Lauffen a Girard turbine wheel of 300 horse-power, under a 12-foot head of water, is coupled directly to a dynamo of the "multiple current" or "rotation current" type, manufactured by the Oerlikon company. The turbine makes, at ordinary speed, thirty revolutions per minute and the dynamo five times that number. This produces a three-phase rotation current, whose three components have, in technical phrase, "an electromotive force of 50 volts and 1,400 ampères each, giving an output available for transmission equal to 200 kilowatts." From the generator strong cables lead to a switch board provided with the ordinary measuring instruments for current and motive force and thence into a transformer specially constructed for this purpose by the Oerlikon company. Besides the large dynamo already mentioned, a continuous-current machine, made by the Berlin company and operated by a special turbine, serves as an exciter for the principal generator.

In the transformer above noted the current is converted into one of intensely high pressure and small strength. For the reason that the air is not a competent insulator for currents of high intensity, the transformer is immersed in a large, closed tank filled with oil.

The converted current, having now a motive force of 1,500 volts at 12 to 13 ampères, is transmitted from Lauffen to Frankfort on three light, naked, copper wires 4 millimetres in diameter strung upon poles 25 feet in height and 190 feet apart. They are hung upon porcelain insulators of the Johnson & Phillips pattern, each of which is provided with one or more troughs filled with oil. For a current of such high intensity ordinary porcelain is a sufficient insulator in clean, dry weather, but in damp weather moisture condenses on the surface, and this, holding dust and dirt, compromises the insulation. To overcome this difficulty, the oil bearing, with troughs inside the insulator cup, was devised and operates with entire success. The copper wire conductors necessary for the experiment are 330 miles in length, weigh 132,000 pounds, and were generously loaned for this purpose by Messrs. F. H. Hesse & Sons, of Heddernheim, near Frankfort.

At the exposition the current from Lauffen passes into another oil-protected transformer made by the Oerlikon company, which reduces it to a pressure of 200 volts, with a corresponding increase of quantity. In this condition a sufficient part of the current is diverted to feed 1,200 glow-lamps, which form one portion of the exhibit. The remainder, amounting to about 100 horse-power, then passes through two additional transformers, furnished by the Berlin company, which reduce it to an electro-motive force of 100 volts, in which condition it drives the large rotation-current motor,

which, at six hundred revolutions per minute, operates the rotary pump already mentioned, besides several smaller motors for ventilating fans and other purposes. All these glowlamps and motors consume only about 150 horse-power, so that the generator at Lauffen works at only about one-half its normal load.

Of course, a current having a potential of 15,000 to 20,000 volts is a dangerous element to handle, and every possible precaution has been taken, both at Lauffen and Frankfort, to insure safety. The generators and transformers are placed in buildings from which the public is rigidly excluded, and automatic cut-outs are provided, which, at the slightest interruption of the current by the falling or breakage of the wires, instantly melt and cut the generator out of circuit. All these contrivances have been exhaustively tested and have operated with complete success.

When it is considered that the triumph of this experiment means the future utilization, on a scale practically unlimited, of the water-power which throughout the world is now mostly running to waste—the lighting of cities and villages and the propulsion of railways, elevators, and other machinery day and night from year to year without animal labor or the consumption of fuel—the incalculable value of this demonstration will be apparent. To borrow the verdict of an eminent electrical engineer, who came specially from England to study the working of this system—

> In my opinion, the Lauffen-Frankfort transmission is the most momentous experiment made in technical electricity since that mysterious natural force which we call electricity has been made serviceable to mankind.

The success attained has fulfilled the most credulous expectations of electricians in this country, and the way is now open for Americans to harness the wasted energy of Niagara and a thousand smaller cascades and rapids in every part of our great country to the varied purposes of daily life.

FRANK H. MASON,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Frankfort, September 18, 1891.

Catalonian jackasses.—A committee, representing the sellers of jackasses of this province, called on me to-day and informed me that the interpreters that accompany American buyers of jackasses are accustomed to obtain, by fraudulent statements as to the prices of jackasses, $20 on each animal bought; and they presented a petition to me asking me to recommend as a trustworthy interpreter Señor Teodoro Mora, of Porticos Xifre, No. 6, third floor, Barcelona. One interpreter alone thus fraudulently obtained a few months ago $1,860. To put an end to this great abuse of confidence, I recommend that this information be made known to American buyers by publishing this dispatch in the CONSULAR REPORTS.—HERBERT W. BOWEN, *Consul, Barcelona, September 10, 1891.*

WHITE WAX IN CHINA.

REPORT BY MINISTER DENBY, OF PEKING.

The customs returns of trade for the various Chinese ports give an interesting insight into the character of the articles which constitute the commerce of this country. Leaving aside tea, opium, cotton goods, etc.—familiar articles in trade reports abroad—which form the vast bulk of imports and exports, many of the minor items strike the attention of a foreign reader as being curious objects of commercial enterprise.

In the report of exports of native goods from Ichang for 1889 occur such items as 13,000 pounds of tigers' bones, valued at nearly $3,000, a price which precludes the idea that they are to be used as a fertilizer—the only use to which anyone but a Chinese would think of putting them. As a matter of fact, they are to be used as medicine, a sort of a tonic, which imparts to the invalid some of the tiger's strength. Another item is 9,000 pounds of "old deer's horns," worth $1,700. This is another medicinal article with whose peculiar properties the pharmacopœia of the West remains as yet unacquainted.

Perhaps the most interesting article of all, however, is "insect wax," of which 1,539,287 pounds were shipped from Ichang in 1889 in foreign ships. This immense quantity cost over 400,000 taels, or about $460,000 in gold. This "insect wax," or "white wax," the *pai-la* or *ch'ung pai-la*, as it is called in Chinese, is a product of the western part of the province of Se-Chuen and of parts of the adjoining province of Koei-Choo. It is, however, in the Chien-ch'ang valley, on the An-ning River, in western Se-Chuen, that the wax insect most flourishes and finds its food most abundant. The whole subject of white wax was, by the direction of the English foreign office, thoroughly investigated by Mr. Hosie, Her Britannic Majesty's consular agent at Shun-King, in Se-Chuen, and from his report thereon the following account is taken: *

It seems that in western China, not far from the Thibetan frontier, flourishes a tree called by the Chinese "evergreen tree," or "crackling-flea tree," from the popping of its branches when burned. It is, in fact, an evergreen with "leaves springing in pairs from the branches; they are thick, dark green, glossy, ovate, and pointed. In the end of May and beginning of June the tree bears clusters of small, white flowers, which are succeeded by fruit of a dark purple color." It has been classified by the authorities of the Kew Gardens as *Ligustrum lucidum*. Early in the spring there appear on the bark of the boughs and twigs of this tree numerous brown, pea-shaped scales. Upon opening these they are found to contain a mass of small animals, like flour, whose movements are almost imperceptible. These are the larvæ deposited by the white-wax insect, whose scientific name is *coccus pe-la*. These

* "Three Years in Western China;" Alexander Hosie; 1890.

shells or scales are gathered by the Chinese about the end of April and carried to the prefecture of Chia-ting, the center of this industry, about 200 miles from the Chien-ch'ang valley. For this journey they are wrapped in packages each containing about 16 ounces. The utmost care is taken to protect them from the heat, as the time of the development of the larvæ into insects is near at hand, and when this occurs they make their escape.

In the vicinity of the city of Chia-ting is a plain, described by Mr. Hosie as an immense rice field.

Almost every plat of ground on this plain, as well as the bases of the mountains, are thickly edged with stumps varying from 3 or 4 to 12 feet in height, with numerous sprouts rising from their gnarled heads. These stumps resemble, at a distance, our own pollard willows. The leaves spring in pairs from the branches; they are light green, ovate, pointed, serrated, and deciduous.

The identity of this tree is uncertain, but it is supposed to be a species of ash, the *Fraxinus chinensis*. It is called by the Chinese *pai-la shu*, or white-wax tree.

The white-wax scales, upon arrival, are made up into small packages wrapped in leaves, about twenty or thirty scales in each package, and suspended under the branches of the tree. Holes are punched in the leaves which constitute their covering, and the insects, on emerging from the scales, creep up the branches to the leaves of the tree, among which they remain 13 days. They then descend to the branches and twigs, "on which they take up their positions, the females, doubtless, to provide for a continuation of the race by developing scales in which to deposit their eggs and the males to excrete the substance known as white wax." It is supposed that the wax is intended by nature to protect the scales.

The first appearance of the wax on the undersides of boughs and twigs resembles snow, but it gradually spreads over the whole branch to a depth of one-quarter of an inch. At the expiration of 100 days from the placing of the insects on the wax tree the deposit is complete. The branches are then cut off. As much wax as possible is removed by hand, but, to secure what remains, the branches are afterwards boiled. This boiling of the branches destroys the scales and their larvæ, thus necessitating the bringing of fresh scales the following year from another locality, as above described. A pound of scales, it is said, will produce 4 or 5 pounds of wax.

The wax scraped off is put into boiling water, where it melts, and, rising to the surface, is skimmed off and put into molds. Here it solidifies, and the work of manufacture is complete. The insects, which have sunk to the bottom of the pot, are pressed out, and, when the wax has all been extracted from them, are fed to the pigs. A ton of this wax is worth at Shanghai about $1,000.

A tree from which the branches have been removed is not available again for 3 years. If the wax is left on the tree, the male insects buried under it undergo a metamorphosis, emerging with wings in the autumn and flying away.

This article, in contrast with the deer's horns and tigers' bones above referred to, has an intrinsic value, and not a fictitious one derived from fantastic ideas as to its medicinal qualities. It is, in fact, a substance of great utility in common use in China. It is a clear, white wax which melts only at a high temperature (160° F.), and is chiefly used to cover candles made of animal and vegetable tallow to prevent too rapid combustion. It is used in some localities as a sizing for paper and cotton goods, a glaze for silk, and polish for furniture. It is also said to be used in southern China as a polish for stone ornaments. The above figures of its export give only a partial idea of the proportions of the industry. Immense quantities are shipped from the ports of the upper Yang-tse in Chinese junks, and some is sent across the mountains and via the West River to Canton. It is much used there, where I have seen thousands of pounds of it in large round cakes stored away in a single room.

The introduction of foreign kerosene, now so universally used in China, has had a discouraging influence on the production of white wax. Kerosene lamps afford a cheaper light than tallow candles, and the constantly increasing use of oil diminishes the demand for wax. This affords but another example of the silent but ceaseless revolution which the entrance of foreigners into China has inaugurated in every branch of native trade. It is possible, however, that a use for this wax may be found abroad to reëstablish this interesting and once flourishing industry.

CHARLES DENBY,
Minister.

UNITED STATES LEGATION,
Peking, April 24, 1891.

TRADE OF SANTIAGO DE CUBA.

REPORT BY CONSUL REIMER.

Apart from sugar and ores, the exportation of the products of this consular district is, it can be said, entirely controlled by the condition of foreign markets; and the increase in the exportation of cedar logs, beeswax, rum, and other lesser products may be attributed to the rise in prices in the United States and abroad.

The iron mines at present working have formed the subject of another report and need no mention here. The sugar industry has likewise been fully described.

Manganese ore would have been exported in much greater quantities had the prices in the United States permitted it. These mines are greatly handicapped by lack of transporting facilities and the cost resulting therefrom, and can to-day barely produce, on an average, at a profit.

As regards import statistics, this consulate has been at work 1 month attempting to complete them; but, when the result of all available publications

was arrived at, the writer concluded that to send this result would only be misleading, as it differed so widely from what might be supposed to be the actual importation. This may be attributed to the fact that merchants here procure a part of their wares from ports on this island and no coastwise trade statistics are kept, and also to other reasons well known. Also, the peculiar construction of the Cuban customs tariff, even when figures are furnished by the custom-house, includes so many different articles in one rubric that figures from there are of no use.

I inclose statistics of exports to the United States and can vouch for their correctness. Export statistics to foreign countries were taken from custom-house figures.

Table showing the exports to the United States from the ports of Santiago de Cuba, Guantanamo, Manzanillo, and Santa Cruz del Sud during the fiscal year ended June 30, 1891.

Articles.	Quantity.	Value.
Almigue wood ... logs	4	$68.20
Asphaltum ... boxes	1	.99
Beeswax ... packages	122	10,577.23
Bones ... bags	146	110.54
Cocoanuts ... do	1,318	2,269.22
Cedar ... logs	33,058	193,528.94
Coffee ... packages	12	596.19
Cocus wood ... pieces	3,098	1,121.55
Cacao ... bags	17	705.83
Corogo seeds ... do	130	293.16
Cigars ... number	50,800	1,292.57
Copper ... packages	6	260.00
Dagame spars ... number	97	142.50
Honey ... packages	194	7,385.50
Iron ore ... tons	333,255	855,412.86
Logwood ... do	536	13,921.25
Lemons ... barrels	8	39.77
Lancewood spars ... number	1,378	1,817.20
Manganese ore ... tons	25,799	345,134.65
Mahogany ... logs	18,599	198,209.80
Mats for dunning ... number	145	63.50
Molasses ... packages	2,150	45,325.05
Oranges ... do	12	57.23
Parrots ... number	1,300	1,819.44
Phosphate rock ... tons	490	1,814.97
Palm leaves ... mats	1,594	1,341.97
Pineapples ... barrels	10	33.30
Returned goods ... packages	4	66.40
Sugar:		
Centrifugal ... bags	378,820	3,814,921.59
Molasses ... do	48,079	372,682.42
Tobacco in leaf ... bales	2,462	73,413.11
Tortoise shell ... cases	3	2,073.32
Timber, hard ... pieces	174	86.78
Total		5,946,587.03
Total, 1889-'90		4,836,805.75
Increase		1,109,781.28

Table shewing the exports to foreign countries other than the United States from the port of Santiago de Cuba during the fiscal year 1890–'91.

Articles.	British provinces.	Spain.	Germany.	Other countries.	Coastwise.	Total.
Coffee.....pounds...	.....	800	300	520	584,860	586,480
Sugar.....quintals...	850	.....	.....	.....	5,484	6,334
Tobacco.....bales...	.....	.....	2,294	2	441	2,737
Rum.....puncheons...	50	8	150	.....	806	1,014
Cocoa.....bags...	.....	5,975	.....	10	.....	5,985
Wax.....kilogrammes...	.....	2,040	1,760	.....	.....	3,800
Fustic.....pieces...	.....	192	.....	.....	.....	192
Mahogany.....feet...	.....	20,000	4,000	4,000	.....	28,000
Cedar.....do.....	54,000	4,000	4,000	.....	.....	62,000

OTTO E. REIMER,
Consul.

UNITED STATES CONSULATE,
Santiago de Cuba, August 6, 1891.

BELGIAN-AMERICAN TRADE.

REPORT BY CONSUL ROOSEVELT, OF BRUSSELS.

The following tables show the commerce between Belgium and the United States for the first 6 months of the years 1889, 1890, and 1891:

IMPORTS.

Merchandise.	1889.	1890.	1891.
	Kilos.	*Kilos.*	*Kilos.*
Coffee	1,082,907	196,138	501,094
Flour, bran, etc	2,616,633	18,284,990	10,947,588
Grain of all kinds	31,094,262	113,249,920	75,515,258
Grease and lard	8,038,524	12,276,197	10,994,031
Hides and skins, raw	44,888	224,827	194,727
Meat	4,746,741	10,327,819	11,383,772
Nickel and copper	.....	15,676	953,347
Oil, vegetable	1,008,682	1,130,041	1,487,320
Oleaginous grain	340	19,400	19,400
Petroleum	50,679,896	49,214,018	35,457,948
Rice	6,164	290	.....
Resin and bitumen	8,344,309	8,789,856	7,009,019
Starch	65,191	189,360	202,088
Sirup and molasses	17,385	29,582	37,453
For distilling	3,592,617	2,332,237	.....
Tobacco:			
Raw	2,541,934	2,582,151	2,571,208
Manufactured	41,925	41,776	53,646
	Francs.	*Francs.*	*Francs.*
Arms	46,366	103,510	72,911
Fruits of all kinds (dried)	134,624	191,503	40,304
Wood for building:	*Cubic metres.*	*Cubic metres.*	*Cubic metres.*
Oak and walnut	294	655	700
Other	10,367	13,212	8,534

EXPORTS.

Merchandise.	1889.	1890.	1891.
	Kilos.	*Kilos.*	*Kilos.*
Bottles and other glassware	57,404	13,488	219,211
Cotton goods	41,680	25,513	14,629
Glass:			
Window	16,850,780	18,313,753	11,889,263
Other	913,988	1,277,983	771,133
Grain of all kinds	190,190	500,035	.....
Hides and skins:			
Raw	421,408	370,577	411,726
Tanned and prepared	22,014	8,408	35,611
Hops	11,210	5,950	.....
Iron:			
Cast (rough)	180,000	.....	.....
Old scrap	.....	.....	121,900
Manufactures	3,162,570	487,198	1,868,734
Linen goods	115,752	69,822	165,126
Machinery and tools	224,324	75,562	15,577
Nickel and copper	.....	50,000	70,554
Paper of all kinds	82,754	99,913	229,934
Rags	2,468,594	1,476,416	2,590,402
Resin and bitumen	328,172	579,936	1,877,488
Salts of soda	17,962	21,055	17,311
Silk goods	1,129	1,527	460
Starch	3,451	.....	5,950
Steel:			
In bars, etc.	4,730,684	3,876,423	10,450
Manufactures	31,678	163,988	.....
Sugar, raw and refined	764,990	5,042,727	9,599,792
Woolen goods	72,165	91,704	28,746
Zinc	109,603	316,183	84,828
	Francs.	*Francs.*	*Francs.*
Arms	472,845	464,410	470,090
Chemical products	440,560	546,835	564,678
Clothes	896,938	1,109,802	528,942
Hardware and mercery	254,870	288,124	38,000
	Tons.	*Tons.*	*Tons.*
Coal	21,020	8,600	4,350

GEO. W. ROOSEVELT,
Consul.

UNITED STATES CONSULATE,
Brussels, July 25, 1891.

THE MEXICAN ZONA LIBRE.

REPORT BY CONSUL FECHET, OF PIEDRAS NEGRAS.

The "zona libre" comprises a narrow strip extending from Matamoros, on the Rio Grande, along the frontier of the United States and Mexico, to the Pacific. Within this zone all articles pay 3 per cent. of the Mexican tariff on importations when destined for use and consumption within the zone. Merchandise upon which this percentage of duties has been paid may subsequently be shipped to interior points of Mexico beyond the pale of the zona libre by paying the remaining 97 per cent. of duties. The zona libre was

established in Matamoros in 1857 and extended to include the entire frontier between the United States and Mexico in 1884. The avowed object of zona libre legislation was to foster and encourage the growth of towns on the Mexican border. That it was the object and intention to confine these towns, in their expected development, to trade alone and prohibit an industrial growth can hardly be asserted, but the effect of treasury decisions upon the status of the zona libre as related to the rest of the Republic has practically this result.

All articles manufactured within the zona libre, whether from domestic or imported raw material, must pay the full tariff on the manufactured product when shipped to a point in Mexico beyond the zone; or, in other words, Mexican manufactures of the zona libre enjoy no privileges over foreign manufactures when competing for Mexican markets beyond this zone. The result is that these zona libre towns, having no industries and producing nothing, are merely trade centers, and hence their growth in population and wealth has fallen short of expectations.

In Piedras Negras (Ciudad Porfirio Diaz) there are no manufacturing establishments of any kind. Some 2 years ago an attempt was made to establish a sash and blind factory. Under the Mexican tariff lumber and timber in the rough (unmanufactured) are free, while manufactures of lumber pay a duty of 30 cents per kilogramme gross weight, or 13.6 cents per pound. As a duty of 13.6 cents per pound is heavy, and as there is a good demand for sashes, doors, blinds, etc., capital was ready to embark in this new enterprise and so create a new industry if assured permission to ship to all points in Mexico free of duty. This was refused by the secretary of the treasury on the ground of impairing the federal revenue derived from foreign importations.

Other industries that could be very profitably established in these zona libre towns are soap and candle factories, boot and shoe factories, and carriage and wagon factories. The duties on imported soaps range from 18 cents to $1.25 per kilogramme and upon the common grades of stearine and tallow candles 15 cents per kilogramme gross weight. The duties on the articles required in the manufacture of soaps and candles are: Stearine, 14 cents per kilogramme; tallow, 7 cents per kilogramme; cotton-seed oil, 1 cent per kilogramme; and bicarbonate of potash, 5 cents per kilogramme. The duties on boots and shoes range from 45 cents to $2.50 per pair. The duty on calfskins, kip, patent leather, and morocco is $1.55 per kilogramme net weight; within the zona libre the duties would be but 3 per cent. of the above.

Other industries can be enumerated that might be profitably established within the zona libre with free markets in Mexico. In many industries raw material can be supplied from home sources. It can be seen that the narrow strip of country extending from the mouth of the Rio Grande to the Pacific Ocean, constituting the zona libre, is, in respect to the Republic of Mexico, a foreign country as far as privileges of market for manufactured

products is concerned. It is now reported from the city of Mexico that the Federal Government is considering such modification of existing laws as to permit all articles manufactured within the zona libre to enter all parts of the Republic free of duty. This is a most important and far-reaching measure in its effects upon the border towns, both of the United States and Mexico.

I have already indicated some of the industries that may be established profitably in the Mexican frontier towns. If the present laws shall be so modified as to permit all raw materials from the United States or elsewhere to enter the zona libre free of all duties (or even by paying 3 per cent. of present duties) and to be there manufactured, and thence distributed free of duty to all parts of the Republic, with the sole condition of manufacture within the zone, it will undoubtedly result in building up many new industries in the frontier Mexican towns, and especially at Piedras Negras, that has an abundance of excellent and cheap coal. What the effect will be on the opposite border towns of the United States can not be so clearly predicted, but it is believed no injury will result to trade or to the industries of the American towns.

EUGENE O. FECHET,

UNITED STATES CONSULATE, *Consul.*

Piedras Negras, August 19, 1891.

ARTIFICIAL ICE IN ANTIGUA.

REPORT BY CONSUL BRADFORD.

Owing to the publication of my report on the subject of the production of artificial ice in these islands, I have received several letters from the United States from companies interested in the operation of making artificial ice. They all seem to think that there is an indisposition on the part of the people of Antigua to make any movement in favor of the establishment of a plant for the purpose of producing the same, owing to the usual scant supply of water. This, in my opinion, is very absurd, because we have nothing to do but to establish a condenser, by means of which we can obtain all the fresh water we wish from the harbor. At present we are absolutely without ice, being situated in the midst of an ice famine in a climate of 17° N.

Ice can be made and sold at an ample profit for half a cent per pound, whereas we now pay 2 cents. At present the entire supply is a monopoly, and when we do get any it is at the rate as above stated.

As the expense of furnishing fresh water will be merely trivial, I would respectfully suggest that this report be made public. There are plenty of people here who will join in the establishment of a plant at this capital which will supply the whole of the Leeward Islands, and with an ample profit to the proprietors.

JNO. S. BRADFORD,

UNITED STATES CONSULATE, *Consul.*

Antigua, July 7, 1891.

THE GOLD MINES OF THE MALAY PENINSULA.

REPORT BY CONSUL WILDMAN, OF SINGAPORE.

My previous dispatches to the Department have elicited a large number of inquiries from the United States in regard to the gold field at Raub, i. this consular district. To those who have sought advice as to the practicability of investing in Raub or of coming on to seek positions or their fortunes in the new gold field I have uniformly answered "wait;" but, as waiting is one of the chief characteristics of the toilers of the equator, I am afraid that my American correspondents will not be able to compete, consequently I take this opportunity to quiet their anxiety.

On June 17, 1891, the superintendent of the Raub-Australian Syndicate arrived in Singapore with the product of the third clean-up made at the mines. This company has the remarkable custom of sending its superintendent to Singapore every time it gets a little gold to exhibit it to the long-suffering shareholders; but, instead of this small-boy arrangement sending up the price of stock, it acts oppositely and sends it down. This is but natural. The people who own the $5,000,000 in shares, at which modest sum the company is stocked, are not satisfied with the mines just paying expenses, and, on the receipt of positive knowledge that that is all it will do at present, they at once throw their shares on the market. If, on the other hand, the shareholders would for the present be satisfied with the mine paying expenses and returning a modest profit, there is no doubt in my mind—and I know something about gold-mining—that the peninsula would in time become a profitable gold field.

Up to the present moment the Raub mine, with only a 10-stamp mill, has yielded about $55,000 in gold, with a clear but modest profit. All the development work in the country has been done, good roads built, the dense jungle cleared, water courses opened, and now all that is left to do is to enlarge the machinery and work the rocks.

It may not be remembered that the present gold workings are on the exact site of the ancient gold fields where Solomon procured "gold dust, peacocks, and monkeys." Mt. Ophir, of Bible renown, is near by, and is honeycombed with ancient mines; and the old refuse rocks, which must have been worked in a very primitive way, are being to-day reworked at a profit, yielding, on an average, half an ounce of gold to the ton.

I inclose extracts from a report made by Mr. Sefton, one of the Raub company, on a recent trip there, which, I think, covers many points I have hitherto touched on, conveys a fair idea of the property, and will answer better than I can my many correspondents.

REPORT OF MR. SEFTON.

Our concession covers about 20 square miles, an enormous property when one comes to think of it. The property, roughly speaking, is of diamond shape, running from north to south, or nearly so. The Malay Prospecting Company has been working at a small piece of land to

the south of our concession. They have gone down to the depth of 70 feet and worked along for about 100 feet, and gold is visible all along the line. The last crushing we had is from a westerly lode near the Raub hole; but, owing to a mistake being made in the absence of the manager, about two-thirds of the stuff was taken off a reef branching from the main lode, otherwise the result would have been better. They have now returned to the main lode, and gold is shown very freely all along.

The Raub hole formation is black slate, and is not quite so clearly defined as the western lode. When they have sunk to the extent of about 100 feet in this lode, they will have sufficient ore to keep the present battery at work for the next 12 months. I anticipate that this will give 2 ounces to the ton at the least; probably it will give more. The lower you get down the better defined is the gold and the cleaner is the stone. About half a mile north of the Raub hole is an old excavation, which had been worked by the natives years ago. At present nothing can be done with this, as it is full of water. About a mile further along we have a high hill, the Buket Jalis. This hill is about 250 feet high and extends for nearly half a mile. Superintendent Bibby has tunneled through this at a height of 120 feet, and the result varies from 7 pennyweights to 7 ounces per ton. The reef here varies in thickness from 2 to 8 or 9 feet. The sides of the hill are covered with surface stone, which will yield from 7 pennyweights to half an ounce per ton. This I put at the lowest estimate. Further north there is another and a smaller hill, which should yield the same. Further along again there is another well-defined reef, something of the same formation as the Raub hole. This reef here varies from 18 inches to 7 feet in thickness. Here the surface stone shows gold, and one-fourth of a pennyweight of free gold can be obtained from simply washing the loose rubble.

It must be remembered that a stretch of 3 miles in length and about 400 feet in width is all we know practically of the concession as yet. At present Superintendent Bibby's work has been confined to prospecting. He has cleared 60 miles of river and has made a road of 7 miles. This work will make it very much easier to bring our trial crushings down to Raub.

One thing must certainly be understood if we are going on—we require more machinery. The present battery is good enough for prospecting, and that is all. In Australia, for a place one-fifth of the size, we should have a 30 or 40 head stamp. With the stone we have now in sight, if a 100-head stamp were erected, we could crush night and day for the next 12 months. As I have said before, I believe this stone would yield from 7 pennyweights to 7 ounces per ton. I truly believe that it is the soundest mining speculation I have ever seen. I have had a pretty wide experience in Australia and New Zealand, and I know of no mine that looks so well as Raub does at the present moment.

At Bukit Malacca there are a number of old excavations, previously worked by the natives, which have been gradually filled in and are now a swamp. Superintendent Bibby has been prospecting these, and he tells me that he anticipates that the ore from these places will yield half an ounce per ton. With this stuff you have only to shovel it up and take it to the battery. I think the work can be carried on here much cheaper than in an Australian mine. All the pioneer work is finished. If the work that has been done were put at a valuation and the capital that has been expended put on the other side and a balance struck, I think Raub to-day could show a profit balance of £3,000 or £4,000. The work that has been done will remain good for years.

In the course of the last conversation I had with Superintendent Bibby he said to me: "When I come to think of the place I am surprised. I did not think there was anything of this kind so extensive in the world. Wherever you try there is gold." If this place were in Australia, you would have to-day a township with ten thousand miners working there. No company can properly work this vast concession. There is room there for half a dozen companies. Recollect that the concession comprises 20 square miles. With the present machinery we can crush 120 tons a week, but at the end of this year I anticipate that we shall want a 20-head stamp instead of a 10-head stamp. That will cost very little more than the 10-head stamp, because the roads have been made, the river cleared, and the machinery can now be brought within 3 miles of the ground.

Up to the present time something like £10,000 worth of gold has been taken out of Raub. If you take that into consideration and put it against expenses, I think you will find we have money in hand. We have been at work for 16 or 17 months only, and yet we have more than paid working expenses. When I visited the place I was surprised at the progress that had been made there. At first there were many difficulties in the way. You had to entice the Chinese to come there and work; now you have no lack of Chinese labor there. I have no hesitation in saying that Raub is one of the soundest mining speculations in the world, and, when fully developed, it will be one of the biggest concerns of its kind in the world. That is emphatically my opinion.

ROUNSEVELLE WILDMAN,
Consul.

UNITED STATES CONSULATE,
Singapore, July 17, 1891.

TRADE OF NICARAGUA.

REPORT BY CONSUL NEWELL, OF MANAGUA.

The accompanying tables show the value of the importations and exportations of the Republic of Nicaragua for the year ended June 30, 1890.

Table showing the imports into Nicaragua during 1889–'90 as compared with 1888–'89.

Whence imported.	1889–'90.	1888–'89.
England	$995,884.80	$870,368.18
English Guiana	782.55	729.46
France	531,276.75	315,488.63
Germany	495,218.24	286,468.53
Italy	2,480.04	10,021.90
United States	597,042.95	482,860.12
Jamaica	7,063.94	2,306.67
Colombia	15,875.24	27,896.45
Ecuador	4,227.75	568.00
Trinidad	1,078.75	483.00
Central America	72,812.84	112,491.93
San Juan del Norte	38,813.85	45,089.26
Spain	11,510.86	5,813.00
Cuba	.....	219.81
Argentine Republic	1,968.70	.....
Total	2,776,037.32	2,160,804.94
Imported by Nicaraguan Government	233,002.16	68,641.98
Total	3,009,039.48	2,229,446.92
Gold	317,966.95	307,373.97
Grand total	3,327,006.43	2,536,820.89

Importations from countries other than the United States amounted in the year ended June 30, 1889, to $2,053,060.77. The amount of importations from the United States during the same period was $482,860.12.

Imports from England in 1888–'89 exceeded those from the United States in the sum of $387,508.06. The importations from all countries outside of the United States in 1889–'90 amounted to the sum of $2,729,963.48; from the United States the amount was $597,042.95, being an increase of $114,182.83 over that of 1888–'89. England's increase of im-

ports was, in the year ended June 30, 1890, $125,516.62 as compared with the year ended June 30, 1889.

Nicaragua increased her importations in the sum of $790,185.54 in 1889–'90 in comparison with her imports for 1888–'89. The total value of her importations for 2 years amounted to $5,863,827.32.

Table showing the exports from Nicaragua during 1889–'90 as compared with 1888–'89.

Whither exported.	1889–'90.	1888–'89.
England	$309,294.78	$308,944.19
France	555,274.65	276,607.24
Germany	605,402.33	565,229.92
Italy	24,099.31	35,041.70
United States	749,198.32	624,075.37
Colombia	4,292.07	8,696.89
Brussels	3,408.49	.....
Cuba	615.90	.....
Central America	149,709.49	163,536.21
Spain	7,778.96	11,536.18
Chile	3,760.47	7,010.64
Peru	1,376.05	.....
Total	2,414,210.82	2,000,678.34
Gold	332,583.30	273,422.77
Grand total	2,746,794.12	2,274,101.11

The United States and Germany were the largest purchasers of Nicaragua's products, those two countries alone buying to the amount of $1,189,305.29 during 1888–'89, being something over half of all her exportations for that period. These countries were again her heaviest buyers in 1889–'90, the former increasing the amount imported in the sum of $125,122.95 and the latter to the amount of $40,172.41.

The exportations to the United States for 1889 and 1890 reached the sum of $1,373,273.69 and the importations for the same period $1,079,903.07, showing that Nicaragua exported to the United States $293,370.62 more than she imported.

Nicaragua imported from England during 1889–'90 merchandise to the value of $1,866,252.98 and exported commodities to the amount of $618,238.97 to that country, leaving a balance in England's favor of $1,248,014.01. The importations of Nicaragua exceeded her exportations in the sum of $843,032.09.

The foregoing table of importations shows that Nicaragua imported largely from Europe, while the United States, in comparison with the other countries, was her most extensive buyer. The explanation of this fact is found in the need for more steamship lines between this country and the United States, the lowering of freight rates, and a more accommodating spirit on the part of our business men.

WILLIAM NEWELL,
Consul.

UNITED STATES CONSULATE,
Managua, July 15, 1891.

PUBLIC TEST INSTITUTE OF BERLIN.

TRANSMITTED BY CONSUL-GENERAL EDWARDS.

[Translated from the Berlin Local Anzeiger of July 19, 1891.]

OFFICIAL NOTICE.

REGULATIONS IN RELATION TO THE PUBLIC TEST INSTITUTE (CONDITIONIR-ANSTALT) AT BERLIN.

According to the provisions of sections 36 and 78 of the trade law for the German Empire, the establishment of a public test institute for silk, wool, cotton, etc., as well as of all sorts of yarns, is approved, and, concerning the business operation of the same, the following is determined:

SECTION 1. The objects of the public test institute are:

(1) The examination of all sorts of spinning threads, such as wool, silk, cotton, flax, hemp, jute, etc., and of the yarns composed thereof in regard to the amount of moisture and fat which they contain.

(2) The examination of spun threads in regard to the artificial increase of their weight, *i. e.*, the fixing of the amount of foreign substances admitted artificially into the yarn.

(3) (*a*) The discovery of the numbers of all sorts of yarns and their thread length, (*b*) the examination of the yarns in regard to their solidity and elasticity, (*c*) the boiling of silk, (*d*) the discovery of the sorts and percentage of the amounts of the different components of mixed yarns (*e. g.*, of the cotton in half-cotton yarns and stuffs, of components in half-silk yarns and stuffs, the examination of artificial wool, etc.).

SEC. 2. The director of the test institute shall be elected by the Berlin Chamber of Commerce, approved by the royal police presidency, sworn into office, and his name shall be officially published. Only such person can be elected director of the test institute as from experience is fully competent and has an unblemished character.

SEC. 3. The test institute merely declares the actual result of its investigation. In cases of dispute it is competent to decide, if the parties have agreed to abide by the decision of the director of the test institute.

SEC. 4. The test institute is to be opened every day, with the exception of Sundays and holidays.

On demand of anyone producing or sending a quantity of the suspected wares, an examination of the same must be made according to the following regulations upon payment of the fee fixed in the tariff of fees.

SEC. 5. The director of the test institute must record, in a journal to be kept for the purpose, every examination made by him under serial number and date.

The certificate as to the result of such examination must bear the same number.

The director of the test institute shall have an official seal (a dry stamp) with the coat of arms of the chamber of commerce and the inscription "Sworn director of the test institute at Berlin," with his name.

SEC. 6. For examination whole lots or single samples may be delivered at the test institute. The selection of the necessary samples for examination may be made by the person requesting the examination, but, if desired, the selection can be made by the institute. In disputed cases the examination is to be made in the presence of both parties or of at least two witnesses. Samples in which the quantity of moisture is to be determined must be delivered to the institute in closed, air-tight covers, made fast and sealed immediately after the article to be examined is placed therein. Every sample must be accompanied by a printed form showing (1) the name of the sender, (2) a description of the samples, (3) a specification of the sort of examination desired. From every bale having a weight of from 120 to 150 kilogrammes

a sample of about 1½ kilogrammes is to be taken, and of each 400 kilogrammes (silk, 20 kilogrammes) a test is to be made.

The samples shall be kept during 14 days in the test institute and can in the interval be reclaimed by the owner. If this does not take place, they become the property of the test institute. But the institute shall not be responsible for parts of samples injured or destroyed in the examination.

SEC. 7. For ascertaining the amount of moisture contained, from every lot of 400 kilogrammes three about equal samples, representing a fair average of the matter and weighing together about 1½ kilogrammes, must be detached (the weight of each of the three samples being about half a kilogramme). Two of these, one after the other, must be weighed on scales having a drying apparatus attachment at a temperature of 105° to 110° C. (silk at a temperature of 115° to 120° C.) until they are thoroughly dried. The third sample must be kept for eventual decision in case the difference between the first two samples exceeds one-half of 1 per cent. From the dry weight the commercial weight of the wares is to be computed by percentage addition of the permissible amounts of moisture needed in order to bring it to a nominally moist condition (section 8).

SEC. 8. The permissible moisture contents (normal degree of moisture) of single threads and yarns shall be fixed in accordance with the usual local commercial conditions of such articles. As such commercial condition, for the time being, the decision of the chamber of commerce will be accepted. Until further notice, except in special cases, the following normal moisture additions are to be made to the dry weight:

(1) For silk, 11 per cent.

(2) For clean, washed, unworked wool, sweep net, wool waste, combings, and skin wool free of grease, 17 per cent.

(3) For cotton and cotton yarn, inclusive of imitation yarn, 8½ per cent.

(4) Top, soft-combed yarn and German knitting yarn, 17½ per cent.

(5) For linen and hemp spun yarn, 12 per cent.

(6) For jute and jute yarn, 13¾ per cent.

(7) For mixed yarn of wool and cotton, 10 per cent.

(8) For mixed yarn of wool and silk, 16 per cent.

SEC. 9. In fixing the thread length and number, results shall be expressed according to the metric system, unless when the sample is sent another system is specially requested. Subsequently requested reduction from one system to another will be reckoned separately.

SEC. 10. The number of a yarn will be ascertained by winding 5,000 metres on a reel connected with a counting apparatus, drying it at a temperature of 105° to 110° C. (silk, 115° to 120° C.), and weighing it. To the dry weight must be added the amount of permissible moisture, and from this the number must be reckoned.

SEC. 11. A special control over the business management of the test institute shall be exercised by a committee elected by the chamber of commerce and publicly recognized by the police presidency. The royal police presidency, in addition to this, shall have the right of general oversight over the business of the test institute.

SEC. 12. The royal police presidency is empowered to impose a fine not exceeding 30 marks on the sworn director of the test institute in case he shall neglect his business or commit irregularities in the discharge of his duties.

In regard to punishment for more serious offenses, such as cause the withdrawal of the police presidency's indorsement of him as sworn director of the test institute, the general provisions of law shall apply.

TARIFF OF FEES FOR THE PUBLIC TEST INSTITUTE IN BERLIN.

The fee to be paid for the selection of samples by the test institute (section 6) shall be 4 marks in Berlin, and in other places according to agreement.

In accordance with section 7, from every lot of 400 kilogrammes (silk, 20 kilogrammes) at least two samples must be dried in the institute.

The fees, per sample, are as follows:

	Marks.
Combed yarn	2.50
Clean washed, unworked wool, combings, wool and silk waste, skin wool	2.50
Combed yarn and sweep net	3.50
Cotton and cotton yarn, inclusive of imitation yarn	2.50
Silk yarn (10 pfennigs per kilogramme)	2.00
Linen and hemp	2.50
Jute and jute yarn	2.50
Mixed yarn of wool and silk	3.50
Mixed yarn of wool and cotton	2.50
Ascertaining the amount of grease contained, inclusive of testing	4.00
Ascertaining the amount of artificial weighing for silk, wool, cotton, etc	1.00
Ascertaining the number, without drying:	
Combed yarn, sweep net, and cotton yarn	.50
Skin yarn	1.50
Examining yarns in regard to their solidity, elasticity, etc	1.50
Ascertaining thread length	3.00
Simultaneous ascertainment of moisture, number, and thread length in the same yarn	8.00
Each boiling of silk	1.00
Ascertainment of the amount of the separate components in a mixed yarn or texture	7.50

At the special request of the person in whose interest the examination is made the drying of only one sample will be undertaken. In this case the above rates will be raised 50 pfennigs, *e. g.*, for linen and hemp—one sample, 3 marks; two samples, 2.50 marks each.

Other examinations, *e. g.*, ascertainment of the sort of artificial weighting and all chemical examinations made by the chemical department of the institute (under direction of the chief of the test institute), shall be subject to special agreement between the party desiring the service and the director of the test institute. The foregoing regulations and tariff of fees are hereby brought to public notice, with the remark that the chamber of commerce has elected (1) as director of the test institute, Dr. Georg Löwenberg, 57 Oranienburger street; (2) as substitute, Dr. Erwin Eichler, No. 18d Hannover street; and that these nominations have been approved by the police presidency and these gentlemen sworn, and that the overseeing commission provided for in section 11 is composed of the following persons: Louis Christ, Emil Kurnmerle, Karl Heinrich Gust. Ebell, Commercial Counselor C. W. Martin Spindler, and Heinrich Salomon Adolph Mass.

BARON VON RICHTHOFEN.

POLICE PRESIDENCY,
Berlin, July 10, 1891.

IRON AND COAL TRADE OF GERMANY.

REPORT BY CONSUL-GENERAL EDWARDS, OF BERLIN.

I have the honor to transmit herewith a translation from the annual report of the Berlin Chamber of Commerce, entitled "An historical sketch of Germany's iron and coal trade in the year 1890."

W. H. EDWARDS,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Berlin, July 25, 1891.

IRON AND COAL TRADE OF GERMANY.

[Inclosure in Consul-General Edwards's report.]

In May, 1889, owing to the state of affairs in foreign countries (especially in Great Britain) and to temporary domestic causes, the prices of materials rose considerably, and particularly in the western districts of Germany were the prices of coal and coke affected. In spite of this continually increasing cost, however, constant demand for their products enabled the producers of raw and manufactured iron to obtain satisfactory prices, which were regulated by the raw and bar iron "rings." So long as the price tendency was upward in the world's market the mastery of these combinations was complete, but difficulties arose so soon as prices began to fall in April and May of last year.

Reports from the Rhenish Westphalian iron and coal market at the beginning of February, 1890, recorded many complaints of the iron manufacturers concerning the constantly increasing price of coal and coke, which was likewise compelling them to raise their prices. In iron ores in Siegerland, Luxemburg, and Lorraine the tendency was steady. The raw-iron trade showed slowly increasing prices. The demand was lively. The recently increased prices for coal and cokes, however, made a further increase of price probable. Puddled iron stood in very active demand. Specular iron had also a good foreign demand. Rolled iron, in most branches of trade, also was active. The domestic demand for bar iron was, as usual, energetic. Since the rise in price, also, in South German works the relation of prices to those of raw stuffs had improved. There was, however, little foreign demand. The prices for hoop iron showed an upward tendency. The rough-plate rolling mills found constant employment at profitable prices. The trade in fine sheet metal was permanently brisk, though prices were weak. The demand for rolled wire remained weak, though prices rose. In drawn wire and wire tacks the demand increased, and continued improvement was expected. Iron foundries and machine shops were, almost without exception, fully employed. Pipe foundries raised their prices in consequence of the increased cost of raw materials. The railway-car factories were fully employed and had large orders on hand which necessitated great quantities of rolled iron. At the same time (February 1, 1890) the report of the union for the sale of Siegerland specular iron showed that the transmarine exportation had decreased as compared with the preceding year, because the prices of raw stuffs and manufactures had not risen so much in America as in Germany. Six weeks later the reports from the Rhenish Westphalian iron market were already less favorable. Belgian and French competition were making themselves more sharply felt. The works still maintained their high prices, as they had orders on hand sufficient for several months.

In April, in the western districts, it became clearer and clearer that the bow was bent with too much force, and prices for coke fell 2 or 3 marks. Foundry raw iron No. 1 fell between the end of January and the end of March, according to quotations on the Dusseldorf Bourse, from 101 and 102 marks to 96 marks, and No. 3 fell from 90 and 93 marks to 84 marks. This was caused by foreign influence on the domestic market. Statistics show an increase of the importation of raw iron into Germany in the month of February, 1890, amounting to 25,957.2 tons, as compared with 4,158.2 tons in the corresponding month of the preceding year. The exportation, moreover, decreased from 15,036.5 tons to 9,878.4 tons.

It was reported from Dortmund on April 20 that for domestic iron ores the demand has fallen still further, consequently prices have fallen from 1 to 2 marks per ton. The raw-iron trade is quiet and does not extend beyond immediate demands. The Rhenish Westphalian Raw-Iron Combination will, for the present, keep prices where they are, though dealers are selling cheaper. In bar iron and building iron the sales are good and the market active. In sheet metal, however, business has reduced. Rolled-wire works have little to do. Steel works are fully employed; also car and locomotive shops. Machine shops and iron foundries, tool shops, boiler works, and construction workshops have regular employment, but new orders are coming in more slowly.

At the end of April, under the pressure of foreign competition, iron prices had fallen from what they were on February 28 as follows:

Description.	Price on February 28.	Price at end of April.
Raw iron:		
Puddled—	*Marks.*	*Marks.*
No. 1	91 to 92	78
No. 2	88	76½
Foundry—		
No. 1	98 to 100	82
No. 2	86 to 88	65
Bessemer iron	93 to 96	82
Thomas iron	79 to 82	68
Boiler sheet-metal of 5 millimetres in thickness and over	235	200

Coal prices maintained their level longer and more obstinately, in spite of the fact that the production was greater than in the preceding year. In the mining district of Dortmund in the first quarter of 1890 over 9,000,000 tons were produced, as compared with 8,756,225 tons in the corresponding quarter of 1889. The number of miners employed in the Westphalian district was 124,446, against 114,114 in the first quarter of 1889. The average prices per ton in March were: In Breslau (mine price), for Upper Silesian lump coal, 9 marks in 1890 and 6 marks in 1889; in Dortmund (at the works), for puddling anthracite coal, 13 marks in 1890 and 6 marks in 1889; in Essen (at the works), for open-burning pit coal, 14.75 marks in 1890 and 7 marks in 1889.

For the iron industry, especially in the west, the reduction of the coal prices was a vital question. The large quantities of coal in the hands of dealers were offered for sale at prices cheaper than those fixed by the ring. Moreover, in March Great Britain sent to Germany 225,376 tons of pit coal, 68,735 tons more than in March, 1889.

The Prussian State railways, which in the year 1888–'89 used 2,500,000 tons of coal, purchased in March in Westphalia, for delivery in July, locomotive coal at 145 marks per double carload. In the middle of April the Magdeburg division obtained similar coal at 135 marks, while a few days later the Elberfeld division purchased 300,000 tons of locomotive coal for delivery after July 1 at 120 marks per double carload. This caused great excitement among the coal-producers, who wished to maintain the price at 135 marks. The increased consumption of coal was in great part due to the growth of the iron industry, and any fall of the latter would, by decreasing the demand, have as a consequence a fall in the price of coal. Accordingly, the anthracite coal combination, which assembled in Dortmund May 13, agreed to decrease the price for the best mixed coal of a quality equal to that of locomotive coal to 120 marks. The prices of other sorts of coal were also reduced—lump coal from 145 marks to 110 marks, smith coal from 135 and 140 marks to 125 marks, nut coal I from 170 marks to 140 marks, nut coal II from 165 marks to 135 marks, nut coal III from 160 marks to 130 marks, and nut coal IV from 155 marks to 125 marks. With the increased demand and brilliant prices the Prussian coal production increased in the first quarter of 1890, as compared with the first quarter of 1889, 765,951 tons, or 4.86 per cent.

The importation into Germany of iron and iron wares in the first quarter of 1890, as compared with the corresponding quarter of 1889, increased from 434,272 double centners to 1,199,059 double centners, as follows: Raw iron from 297,611 double centners to 880,000 double centners and iron manufactures from 111,746 double centners to 200,613 double centners. On the other hand, exports decreased from 2,681,650 double centners to 2,016,410 double centners—raw iron from 508,762 double centners to 312,737 double centners and iron manufactures from 2,100,235 double centners to 1,639,458 double centners. In bar iron, iron and steel wire, plate and sheet iron, etc., the exportation was much reduced. Only in rails, springs, axles, and rough and fine iron wares did it increase.

The competition of France and England had long made themselves felt in spite of freight and duty. The continued falling of prices on the foreign market could not help influencing domestic sales of bar iron. In England in April (between March 30 and May 4) prices fell as follows: Bar iron No. 3, from 53*s.* to 45*s.* 6*d.*; steel rails, from £6 to £5 2*s.* 6*d.*; bar iron, from £7 to £6 7*s.* 6*d.*; rolled wire, from £9 10*s.* to £8 17*s.* 6*d.* The German Rolling Mill Union decided on May 1 to drop the price 20 marks, so that prices for the Westphalian group were reduced from 200 marks to 180 marks; for the provinces of Hanover, Hesse-Nassau, Schleswig-Holstein, etc., from 207.50 marks to 187.50 marks; for East and West Prussia, Brandenburg, Pomerania, and Saxony, from 210 marks to 190 marks. In like degree was the price of boiler sheet-iron reduced by the West German Sheet-Iron Manufacturers' Union, *e. g.*, welded iron from 260 marks to 240 marks. The Rhenish Westphalian Raw-Iron Combination likewise decided upon reductions, *e. g.*, foundry iron I, from 93 marks to 82 marks; foundry iron III, from 82 marks to 65 marks, etc.; puddled iron I, from 90 marks to 78 marks; and corresponding reductions for other sorts. In spite o. the reduction of the abnormally high prices, business did not improve in the expected degree.

The production of puddled raw iron continued to be regularly taken by the Rolling Mill Union. For foundry pigs the demand became somewhat weaker; moreover, the foundries and machine shops were not so hard worked as before. In the rolled iron business everything was quiet. In a tender for 1,500 tons of steel rails in Breslau the "Laura" foundry made a bid of 166 marks, free at foundry railway station.

Reports from Dortmund at the same time announced sales of coal unusual for that season of the year; but the demand soon fell off, consumers preferring to wait and watch the prices. The price of coke weakened considerably. The prices of iron ore also fell; but purchasers delayed the renewal of their contracts, hoping later on to secure still cheaper prices. The supply of raw iron increased, in spite of the production having been diminished. In the rolled iron business bar iron and, still more, punch (*Formeisen*) were favorably influenced by the building trade. In the wire industry the former stagnation continued. Steel works found constant employment, chiefly in the production of railway material. Wagon factories, machine shops, iron foundries, boiler works, etc., were sufficiently employed. After the first week in June the question was raised in the coal district of Dortmund if the prevailing disproportion between supply and demand could best be obviated by means of discharging a large number of workmen or by establishing regular monthly holidays. The latter course was adopted. Furthermore, it was sought to improve the situation by sending quantities of coal to foreign countries at prices cheaper than those prevailing in the domestic market. The coke market was also unloaded by shipments to Belgium, France, and Spain.

The waiting position of buyers continued through the following weeks, the Westphalian mines finding it necessary to make concessions to the iron and steel works. The Rhenish Westphalian Raw-Iron Union on the 10th of June decided on a further reduction of raw-iron prices amounting to 4 marks for foundry raw iron No. 1, 5 marks for foundry raw iron No. 3, 4 marks for hematite raw iron, 8 marks for Thomas iron, 6 marks for puddled quality iron Nos. 1 and 2, 7 marks for puddled iron No. 3, and 4 marks for Bessemer iron. Also, iron ore fell from 4 to 5 marks per ton. The upper Silesian blast furnaces experienced no weakening of their business at this time (middle of June), as they were working partly on old orders and partly on new ones. The constant employment of the rolling mills and foundries consumed the entire new production of the blast furnaces. The machine and boiler works constantly obtained new work from the extension of the mines. The rolling mills experienced hardly any decrease in deliveries of the different sorts of commercial iron. The decline in building activity diminished the demand for supports and form iron (punch), though some of the larger rolling mills made very extensive deliveries of all sorts of articles to Roumania, Servia, and Denmark. The demand for rolled wire, drawn wire, and wire tacks somewhat declined. While coal-takers were waiting for bargains and the mines were reducing their production, the German Rolling Mill Union, on June 14, again decided to reduce prices, this time 15 marks per ton. Bar iron, which in Rhenish Westphalia had previously cost 180 marks, from

this time on was sold for 165 marks. Nevertheless, buyers still waited. The general directors of the Bavarian railways decided, thinking that a further fall in the price of iron was probable, to delay placing orders for a large part of the material, the purchase of which had been authorized by the last legislature. The railway division of Elberfeld also on July 6 refused an offer at 152 marks per ton, which was 13 marks cheaper than had been paid at the end of May. Breslau wholesale dealers on July 11 informed their customers that they had reduced prices for rolled iron to 17.50 marks, fine sheet metal to 22.50 marks, and rough sheet metal to 20.50 marks, per double centner, free at stores in Breslau. With reduction of price for bar iron in Silesia a reduction in the price of raw iron followed: foundry raw iron brought 7 to 8 marks; common puddled raw iron, 6 to 6.50 marks; and common blast furnace castings, 7.60 marks. For the rolling mills the reduction of prices in Silesia brought the price down to 17.50 marks per 100 kilogrammes, and many sales resulted. Still, a very large part of the production remained in stock at the rolling mills and steel works, and the production of many of the steel works was reduced. Pipe works and the Gleiwitzer wire and nail factory remained in active operation at reduced prices. The increase in the number of railway cars in the railway division of Breslau was very great, and the eastern car shops were busily employed.

The pit-coal production of Upper Silesia amounted to 8,228,590 tons in the first quarter of 1890, as compared with 7,262,562 tons in the corresponding period of 1889; iron ore, 364,345 tons in 1890, as compared with 185,614 tons in 1889; raw-iron production, 259,477 tons in 1890, as compared with 206,908 tons in 1889; production of the iron foundries, 17,535 tons in 1890, as compared with 13,707 tons in 1889; manufactures of rolled iron and steel, 208,317 tons in 1890, as compared with 152,921 tons in 1889.

The great increase in the production of Ruhr coal in the first half of the year, as compared with the corresponding period of the preceding year, was remarkable. Since then, as already said, the Westphalian coal market has reduced its production.

The raw-iron production of the German Empire (including Luxemburg) in the first half of the year 1890 amounted to 2,339,583 tons, as compared with 2,092,376 in the preceding year. The raw-iron importation from England into Germany (and Holland) in this half year was, according to English statistics, 286,150 tons, against 232,930 tons in the first half of 1889. The total exportation from Germany in iron and steel in the same period was, according to imperial German statistics, 104,942 tons, about 25 per cent. less than in the corresponding period of 1889. The decreased exportation was chiefly in raw iron, wire, locomotives, and machines. According to German statistics, the importation of iron and steel into Germany was almost twice as much in the first quarter of 1890 as in the corresponding quarter of 1889, it having increased from 131,255 tons to 261,485 tons. In order to resist as much as possible the influence of English raw iron, the Rhenish Westphalian Raw-Iron Union, at its meeting on July 26 at Cologne, decided to reduce prices still further—3 marks for foundry iron No. 1 hematite, and Bessemer raw iron and 5 marks for Thomas raw iron and puddled iron III. Only the price of foundry iron No. 3 was, following the English price, raised about 1 mark to 61 marks. About the same time it was decided to reduce the production of Rhenish Westphalian puddled quality iron about 20 per cent. The abnormal circumstances which prevailed in the first half of the year having become less marked at the end of that time, renders possible a shorter report concerning the second half of the year.

The coal market, especially in the Ruhr district, where in recent years the mines have tried to underbid one another, tried to secure the favorable status obtained by the rise in prices as far as possible, especially as new wage demands on the part of the miners were not unexpected. A union was therefore formed to control sales. The Dusseldorf Bourse committee, which from the middle of May to September 4 gave no prices, noted on September 4, 1890, gas coal at 12 to 14 marks; anthracite pit coal, 8.50 to 9 marks; coke coal, 5.50 to 7 marks; foundry coke, 15 to 19 marks. These prices remained firm, for on February 5, 1891, gas coal was noted at 12 to 14 marks; anthracite pit coal, 9 to 10 marks; coke coal, 8.50 to 9.50 marks; foundry coke, 16 to 18 marks. It is worthy of note that in 1890 great quantities of coke were shipped to Belgium (559,449 double centners, against 150,815 in 1889),

and France (4,279,343 double centners, against 2,768,866 in 1889), probably at prices lower than those obtained in the home market. The pit-coal production in the mining district of Dortmund in the year 1890 was 35,469,290 tons, 1,614,180 tons more than in the preceding year. Upper Silesian lump gas coal, according to Breslau notations, remained through the whole year 1890 at 9.50 marks, the price having risen in 1889 from 7 marks to 8.40 marks.

While, on the whole, the prices of coal remained firm on account of their unusual height, the iron industry encountered great difficulties also in the second half of the year, for the prices of ore, raw iron, and bar iron had a continued downward tendency. On account of the falling prices, buyers held back, and orders in the summer months were scanty. For instance, the notations of the bourse at Dusseldorf, from August 7 to August 21, showed the following declines: Raw spar, from 10 and 11 marks to 9.50 and 10 marks; specular iron *1a*, from 76 and 80 marks to 66 marks; bar iron (standard price), from 160 and 165 marks to 157.50 and 155 marks. The West German Raw Sheet Metal Union found it necessary, from September 1 on, to reduce the prices of weld-iron sheets 20 marks and ingot iron 15 marks, so that weld-iron sheets cost 220 marks; ingot iron, 190 marks; reservoir sheets, 165 to 180 marks, per 1,000 kilogrammes.

In the middle of September the following prices per ton obtained in the Rhenish Westphalian district:

Articles.	Prices.	Articles.	Prices.
Raw iron:		Manufactures of rolled iron and railway materials *—Continued.	
Specular, with 10 to 12 per cent. of manganese	*Marks.* 66	Ingot iron, in bars	*Marks.* †165
Siegerland puddled quality	53 to 56	Bessemer steel	†170
Foundry—		Bessemer steel and ingot iron billets	115
No. 1	75	Siegen fine metal sheets	175 to 180
No. 3	63	Rolled wire—	
Thomas	50	In iron (wire tack quality)	145
German Bessemer	75	In steel	135
White steel	56 to 60	Drawn wire in iron and steel	160
Manufactures of rolled iron and railway materials: *		Wire tacks	170
Bar iron (good commercial quality)	155 to 165	Bessemer steel rails	145 to 150
At Neunkirchen, in South German union	140	Fish plates	122 to 160
Angle iron	175	Ingot-iron sills	135 to 145
Supports (double T iron)	150	Wheels (complete sets)	320 to 340
Hoop iron	155 to 160	Axles (loose)	240 to 250
		Steel tires (loose)	230 to 250
		Tram rails of Bessemer steel	125 to 140

* Free at works. † And above.

During the course of the month, however, certain iron works not in the union underbid its prices, and as, moreover, the condition of the wire business being so depressed, various wire works began to give up the use of bar iron, at the end of September the German Bar-Iron Union was compelled to reduce its standard price again, this time 25 marks, *i. e.*, from 165 marks to 140 marks. October brought further reductions. The Dillinger works reduced the prices of sheet iron to 135 and 155 marks. The demand for sills and other building iron had at this season fallen off very much, and large stocks accumulated. Accordingly, standard prices were little respected. The union of German punch (*Formeisen*) works on October 20 reduced the standard price for I, U, and Belag iron to 125 marks per 1,000 kilogrammes, freight basis Burbach. Also, in fine sheets there was underbidding, and the West German Fine Sheet Metal Union disbanded. Rough sheet metal also suffered. In rolled wire there was such a great calm that prices fell 10 marks per ton.

In answer to a call from Baden State railways in the middle of October, sheet metal was offered at 130 marks per ton and bar iron at 145 and 132 marks per ton. At the same time in Breslau steel rails brought 143 marks, against 150 marks in September and 166 marks in

May. In answer to a call from the Bavarian State railways in Munich, near the end of November, the lowest offers were: For steel rails, 143.50 to 144.75 marks per ton; fish plates, 21.50 marks per ton; Laschen plates, 132.50 to 133.50 marks per ton. The offer for rails was underbid by foreign competitors. On November 28 foreign competition again made itself felt in deliveries for the Baden State railways. The rail convention required 138 to 145 marks per ton at the Rhenish Westphalian works, but, on account of the cheaper English offer, agreed to a reduction. The prices for fine sheet fell in the middle of November, owing to the disbanding of the union, to 130 marks per ton, the fall in a few weeks having amounted to 30 marks. The Siegener manufacturers declared at their monthly meeting that these prices were less than the cost of production. Near the end of December, moreover, the price of rough sheet metal fell 20 to 25 marks, in order to compete with the production of works not in the union. At the beginning of December the Rolling Mill Union, anticipating good business, raised their prices 5 marks per ton.

In Dortmund, Bessemer raw iron from the Ruhr district in July was still quoted at 76 marks, in August and September it was 75 marks, while through the last quarter of the year it was 70 marks per 1,000 kilogrammes. Westphalian puddled raw iron I sank from an average of 65 marks in July to 58 marks in August and September, 56 marks in October, and 53 marks in November and December. The Dortmund quotations for Thomas iron were 53 marks in July, 50 marks in the following 3 months, 49.50 marks in November, and 49 marks in December. The Breslau quotations for German raw iron were, on the average, for puddled raw iron (*Puddelroheisen*), in July, 66.50 marks; in August, 58.75 marks; in September, 56 marks; in October, 55 marks; in November, 49 marks; in December, 47 marks. Foundry raw iron fell from 77.50 marks in July to 58.50 marks in December.

With the exception of short periods during the second half of the year, smelters, rolling mills, mechanical workshops, wagon shops, etc., in the western and eastern, as well as in the central, districts of Germany found constant employment, and the reports of the larger stock companies showed good results. In the last months of the year in exportations, also, the mining industry took active part, as the prices of materials had again reached a moderate level.

In the past 3 years the importation of brown coal has steadily increased from 52,000,000 double centners to 65,000,000 double centners. The importation of pit coal, which rose from 32,500,000 double centners in 1888 to 45,700,000 double centners in 1889 (owing to the entry of the Hanse cities into the customs union), in 1890 fell to 41,600,000 double centners. The exportation, which fell from 94,600,000 double centners in 1888 to 88,470,000 double centners in 1889, rose again in 1890 to 91,480,000 double centners.

The importation into Germany of iron increased from 12,347,000 double centners in 1889 to 15,221,000 double centners in 1890. The exportation increased from 21,800,000 double centners to 22,000,000 double centners.

Of raw iron Germany obtained from abroad 3,849,542 double centners in 1890, against 3,377,313 double centners in 1889. On the other hand, the exportation fell from 1,564,345 double centners to 1,168,776 double centners. The raw-iron production of Germany (inclusive of Luxemburg) amounted to 4,563,025 tons in 1890, against 4,387,504 tons in 1889; increase, 175,521 tons, or 4 per cent.

Among the articles whose importation in 1890 was decreased as compared with 1889 were:

Articles.	1890.	1889.
	Double cent.	*Double cent.*
Fish plates, ground plates, and sills	2,916	4,006
Cast-iron wares (rough)	115,186	130,293
Anchors and chains	16,172	18,762
Iron bridges and parts	514	1,747
Pipes of malleable iron	10,138	10,933

Of the important iron wares which Germany obtained from abroad in 1890 in increased quantities over 1889 may be mentioned the following:

Articles.	1890.	1889.
	Double cent.	*Double cent.*
Angle and corner iron	10,700	3,454
Railway rails	62,570	25,258
Malleable iron:		
In bars (inclusive of *façonnirte* iron)	289,410	222,372
In plates	48,430	36,497
White sheet metal	42,738	29,236
Iron wire	57,303	49,781
Springs, axles, wheels, etc., for railway cars	44,218	13,271
Iron wares:		
Rough	113,268	99,524
Fine	14,649	12,628

Germany's exportations in 1890 remained about the same as in 1889 in angle and corner iron (1890, 511,602 double centners), but, among other things, increased in the following articles:

Articles.	1890.	1889.
	Double cent.	*Double cent.*
Railway fish plates, ground plates, and sills	360,236	260,424
Railway rails	1,290,155	1,109,488
White sheet metal	3,382	2,967
Lump iron, raw rails, etc	237,270	208,077
Anvils, bolts, etc	28,088	26,342
Iron bridges and parts thereof	64,100	58,777
Springs, axles, wheels, etc	288,472	260,296
Iron wares:		
Rough	791,161	716,202
Fine	131,844	115,722

On the other hand, German exportations in 1890 decreased, as compared with 1889, in the following important articles:

Articles.	1890.	1889.
	Double cent.	*Double cent.*
Malleable iron in bars	1,446,192	1,658,819
Malleable iron in plates and sheet iron	591,665	621,419
Polished, varnished	13,132	15,755
Iron wire	1,342,939	1,564,411
Cast-iron wares (rough)	187,786	190,174
Wire ropes	14,696	17,433
ron pipes, rolled and drawn	195,224	211,086
Wire tacks	410,396	464,100

Statistical comparisons concerning the iron trade show that importations, which since 1886 had fallen off very much, in 1888 again began to increase rapidly. Taking 100 tons as the unit, the importation in 1887 was 2,179; in 1888, 2,734; in 1889, 4,226; in 1890, 4,939. On the other hand, exportations fell off. Taking the same unit, exportations amounted in 1887 to 12,603; in 1888, 10,509; in 1889, 9,454; and in 1890, 9,411.

The exportation to Austria, which since 1885 had regularly declined, again increased in 1889 and 1890. The exportation to Russia, which since 1887 had much fallen off, in 1890

rose, owing to the important increase in the value of the ruble. The exportation to Italy, as compared with 1889, decreased. This was also the case with exportations to the United States, where the iron industry is continually and rapidly developing, and to the Argentine Republic and Brazil, on account of their precarious financial condition.

The importation of locomotives and stationary engines into Germany increased from 15,367 double centners in 1889 to 27,212 double centners in 1890. The exportation decreased from 51,240 double centners to 49,304 double centners. The importation of steam boilers rose from 3,555 double centners to 5,067 double centners. The exportation likewise increased from 15,944 double centners to 20,917 double centners. The importation of other machines and parts of machines increased from 413,399 double centners in 1889 to 506,588 double centners in 1890, while the exportation increased from 678,525 double centners to 730,808 double centners. In spite of the unusual and uninterrupted activity in domestic shops, the demand for foreign railway cars increased in 1890, so that it was necessary to import 392 cars, valued at 935,000 marks, against 58 cars, valued at 108,000 marks, imported in 1889. The exportation of German railway cars decreased from 1,682 cars, valued at 5,484,000 marks, to 622 cars, valued at 2,436,000 marks.

The productive activity of the mining industry and all its dependent industries, on the whole, did not fall behind that of the preceding year. Difficulties have increased for the iron industry ever since the time when iron prices fell, but it has struggled bravely and with energy through this critical period, under the great burdens which social legislation has imposed upon it, without having to lower the wages of labor.

THE DONKEYS OF PANTELLARIA.

REPORT BY CONSUL HEATH, OF CANTANIA.

In Sicily, and especially in the province of Catania, are found the largest and best working donkeys in the world. These donkeys far surpass in size and height the famous white donkeys of Maskat. They are essentially a breed particularly adapted for labor, while for endurance no other domesticated working animal can approach them.

The Maskat donkey, on the other hand, is only used for pleasure riding, principally by women, and has been bred for centuries for this sole purpose. His principal value is that he is large and white, and, not being very plentiful, expensive.

The Sicilian donkey, of which I write, has been bred for centuries for size and working qualities, and his home is on the small island of Pantellaria, off the southeast coast of Sicily. A good specimen will stand 12½ hands high and weigh from 650 to 700 pounds. The colors are black, red, and gray, and many have as short, fine hair as an Arab thoroughbred horse. The peculiar marking of a cross on spine and shoulders, common to wild and most domesticated breeds, is wanting in this one. Their good qualities are lack of all stubbornness, great draft powers—taking the same load as a 900-pound horse or mule at a rapid walk—and easily kept, being small consumers of food.

A jack of this breed crossed on a common mare gives a very large mule; but in Sicily this is not often done, the smaller maltese jacks being generally preferred, because, owing to the mountainous country, a mule of 900 pounds weight or less is considered more desirable.

If these large, docile, and quick-walking donkeys could be introduced into the United States, they would prove of great value to small farmers, especially to the class of small negro farmers in the South, who, for varied reasons, can not afford to keep horses. Equally valuable should they prove for mule-breeding purposes.

A fair average price here for a good young donkey as described would be from $25 to $40, although if some particularly fine breeding jack should be desired an offer of $200 might fail to purchase him.

CHARLES HEATH,
Consul.

UNITED STATES CONSULATE,
Catania, August 13, 1891.

JUDICIAL AND CRIMINAL STATISTICS OF SPAIN.

REPORT BY CONSUL TURNER, OF CADIZ.

I have the honor to inclose a review of the annual report of el ministre de gracia y justicia for the year 1890.

This review will be found to be a very complete résumé of the judicial and criminal statistics of Spain for the year cited. In it I have given considerable space to an analysis of cases tried by juries, because of the newness of the jury system in this country. The portion which treats of suicides is also complete.

ROBERT W. TURNER,
Consul.

UNITED STATES CONSULATE,
Cadiz, July 25, 1891.

MINISTRATION OF JUSTICE IN SPAIN, 1890.

[Inclosure in Consul Turner's report.]

CRIMINAL STATISTICS.

In all Spain the number of offenses that gave basis for a process was 64,078, classified as follows: By the press, 51; against public order, 8,384; against general interests and régime of cities, 4,236; against individuals, 27,913; against property, 23,491. The number of persons accused was 88,212. Of this number 67,307 were found guilty, and, in addition to imprisonment, 5,781 of them were fined. The court of original jurisdiction settled 59,183 of these cases and the court of first appeal 4,484.

CAUSES INCHOATE.

The causes inchoate during the year 1890 and pending termination on December 31 of the same year were 23,866 civil and 49,746 criminal; total, 73,612; of which number 3,835 civil and 6,813 criminal were pending on December 31, in addition to those in 1889, some of which commenced in 1886 and are still pending. The causes pending December 31, 1889, were 25,209, of which 235 were old cases and 24,974 comparatively recent. Those com-

menced during 1890 numbered 71,106, which made a total of 96,315. Of this number 70,167 were completed during the year, 68,248 by trial and 1,919 by dismissal.

CRIMINAL TRIALS BEFORE JUDGES.

The number of criminal trials before judges was 13,639, of which 9,116 of the accused were found guilty and 4,523 were cleared. In addition to the foregoing, 6,029 pleaded guilty before judges and were sentenced without trial. The total number of cases was 9,668.

Time elapsing between arrest and final trial.—Of the cases presented for trial 723 were less than 3 months in preparation, 6,688 were more than 3 and less than 6 months, 8,179 were more than 6 months and less than 1 year, and 4,078 were more than 1 year.

Whereabouts of prisoners between time of arrest and final trial.—Of the accused 3,637 were in liberty under bond, 2,898 were in prison awaiting trial for a term of less than 3 months, 2,074 were in prison awaiting trial from 3 to 6 months, 1,050 from 6 to 9 months, 445 from 9 to 12 months, and 657 more than 1 year.

Witnesses examined.—The total number of witnesses examined was 64,759, at a cost of 252,982.25 pesetas.

Physicians examined.—The total number of physicians examined was 2,423, at a cost of 15,202.25 pesetas.

Experts examined.—The total number of experts examined was 1,714, at a cost of 8,122.20 pesetas.

Prisoners who became insane while awaiting trial.—The number of prisoners becoming insane while awaiting trial was 7.

CRIMINAL TRIALS BY JURIES.

The total number of trials by juries was 2,386. Of this number 1,458 of the accused were found guilty, 502 were cleared, and 426 dismissed.

Time elapsing between arrest and final trial.—Of these cases 3 were less than 3 months in preparation, 243 more than 3 and less than 6 months, 1,648 more than 6 and less than 9 months, and 492 more than 1 year.

Whereabouts of prisoners between time of arrest and final trial.—During this time 301 of the accused were at liberty under bond, 209 were in prison awaiting trial for less than 3 months, 329 from 3 to 6 months, 817 from 6 to 9 months, 590 from 9 to 12 months, and 353 more than 1 year; total, 2,379.

Jurors.—The number of jurors paid was 57,589; amount paid them, 495,735.97 pesetas.

Witnesses.—The number of witnesses examined was 17,200; amount paid them, 72,468.02 pesetas.

Physicians.—The number of physicians examined was 1,086; amount paid them, 9,841.65 pesetas.

Experts.—The number of experts examined was 599; amount paid them, 3,162 pesetas.

Insane prisoners.—The number of prisoners becoming insane while awaiting trial was 2.

Analysis of trials by juries.

Total number of trials	2,386
Verdicts in harmony with the accusation of public prosecutor	947
Verdicts conforming at second trial	2
Number dismissed for lack of evidence	426
Number changed from jury to trial by judge	33

Sentences by virtue of verdicts not in harmony with the accusations of the public prosecutor.

Number found not guilty of crime accused	394
Number cleared by extenuating circumstances	76
Number found not guilty on second trial	8
Lessening the character of the offense and the punishment by second trial	1

Lessening the character of the offense and punishment by finding the fault to have been committed under great provocation	47
Lessening the penalty by finding extenuating circumstances	173
Lessening the penalty by finding the offense premeditated but under extreme provocation	5
Lessening the penalty by finding the crime of a lower grade than that charged by the prosecutor	115
Lessening the penalty by finding that the attempted offense was frustrated	3
Lessening the penalty by finding the accused to be accomplices and not authors	6
Increasing the penalty by finding the offense to have been committed with malice and premeditation	15
Condemning the charge of the public prosecutor and finding for the accused	2
Partial disagreements between the verdicts and the conclusions of the prosecutor	133

Table showing the number of offenses tried by juries and the results of the trials.

Charges.	Trials.	Found guilty.	Acquitted.	Disagreement of jury.	Change of venue to trial by judge.
	Number.	*Number.*	*Number.*	*Number.*	*Number.*
Offense committed against the form of government	1	.....	1	.....	.....
Offenses committed by private individuals against others while exercising rights guarantied them by the constitution	3	1	2	.....	.....
Offenses by public officials against individual rights guarantied by the constitution	24	7	16	1	.....
Offenses against the free exercise of the right to worship as the conscience dictates	9	3	6	.....	.....
Sedition	4	2	2	.....	.....
Counterfeiting and falsifying seals and brands	5	3	1	1	.....
Counterfeiting and falsifying coins	35	13	19	3	.....
Counterfeiting and falsifying bank bills, documents of credit, stamped papers, telegraph, postage, and revenue stamps	9	4	5	.....	.....
Forging or falsifying public, official, and commercial documents and telegraph dispatches	40	13	25	2	.....
Falsifying private documents	19	6	12	1	.....
Rape attempted by public officials	1	.....	.....	1	.....
Bribery	14	3	10	1	.....
Malversation	20	6	13	1	.....
Parricide	33	19	14	.....	.....
Assassination	102	77	21	3	1
Homicide	639	415	181	37	6
Infanticide	32	16	19	.....	.....
Abortion	3	.....	2	1	.....
Producing wounds by castrations or mutilations which have resulted in idiocy, impotency, or blindness	6	3	.....	2	1
Rape	188	104	78	5	1
Rape and corruption of minors	7	4	2	1	.....
Enticing away from home for illicit purposes	13	6	7	.....	.....
Kidnaping	1	.....	1	.....	.....
Robbery	885	533	262	68	22
Arson	79	14	63	2	.....
Misdemeanors that had they been committed with malice and premeditation would have been punished under some of the foregoing classifications	182	58	121	3	.....
Offenses committed by the press or by engravings or other mechanical means of publication	32	6	26	.....	.....
Total	2,386	.....	.....	.....	.....

Table showing classification of criminals.

Causes of arrest.	Total number.	Males.	Females.	Number who can read and write.	Number who can not read or write.	Number without trade or profession.
Offenses committed by public functionaries against the exercise of individual rights guarantied by the constitution	38	38	.....	37	1	.....
Offenses against the free exercise of religion	11	11	.....	9	2	.....
Sedition	2	2	.....	2	.....	.....
Resisting the authorities and their agents	852	806	46	419	433	92
Disrespect, insults, injuries, and threats to authorities and their agents	413	367	46	236	177	61
Public disorder	13	13	.....	4	9	5
Falsifying stamps and marks	6	6	.....	5	1	2
Counterfeiting coins	60	48	12	32	28	18
Counterfeiting bank bills, documents of credit, stamped paper, telegraph and postage stamps, etc	15	14	1	8	7	3
Falsifying public documents, official and commercial telegraph dispatches, etc	86	84	2	75	11	18
Falsifying private documents	24	24	.....	21	3	3
Falsifying local passports	25	22	3	10	15	3
Concealing nature of industry to avoid tax, giving false testimony, making false accusations and denunciations	154	137	17	84	70	20
Usurpation of functions, titles, names, dresses, insignias, and official decorations, etc	67	64	3	45	22	19
Grave robbing and desecration	27	23	4	18	9	3
Offenses against public health	21	18	3	14	7	6
Gambling and raffles	36	36	.....	16	20	4
Dereliction of duty on part of a public official	18	18	.....	17	1	.....
Unfaithfulness in the custody of prisoners	14	14	.....	13	1	2
Unfaithfulness in the custody of documents	12	11	1	12	.....	4
Disobedience and refusing to give assistance	12	12	.....	8	4	1
Usurpation of official duties	5	5	.....	5	.....	1
Bribery	17	17	.....	13	4	5
Malversation of public funds	31	31	.....	28	3	2
Frauds and illegal exactions	10	10	.....	10	.....	.....
Parricide	26	23	3	11	15	3
Assassinations	95	93	2	48	47	10
Homicides	629	610	19	310	319	54
Discharging firearms against people	1,231	1,229	2	563	668	72
Infanticide	24	2	22	2	22	10
Abortion	9	8	1	5	4	.....
Wounds made with knives and like weapons	6,502	6,023	479	2,746	3,756	431
Dueling	1	1	.....	1	.....	.....
Adultery	12	6	6	7	5	3
Violations and abuses	145	144	1	61	84	24
Public scandals	28	25	3	16	12	5
Rape and corruption of minors	18	11	7	7	11	7
Rape	12	12	.....	7	5	.....
Calumnies or slander	19	12	7	9	10	9
Outrages	153	78	75	83	70	67
Falsifying the birth and parentage of a child to secure property	5	3	2	2	3	4
Illegal marriages	2	1	1	2	.....	2

Table showing classification of criminals—Continued.

Causes of arrest.	Total number.	Males.	Females.	Number who can read and write.	Number who can not read or write.	Number without trade or profession.
Illegal detention	1	1	.....	1	.....	.....
Abandoning children	7	1	6	1	6	1
Housebreaking	120	116	4	57	63	7
Threats and force	185	175	10	100	85	12
Robbery	1,531	1,433	98	628	903	158
Theft	7,853	6,861	992	2,590	5,263	889
Usurpation	4	4	.....	3	1	1
Embezzlement and other deceptions	916	784	132	532	384	137
Arson	47	45	2	16	31	4
Damages and injuries	105	103	2	56	49	6
Rash imprudence	359	349	10	148	211	32
Simple negligence in nonobservance of laws	17	16	1	10	7	1
Jail-breaking	78	75	3	43	35	6

NOTE.—The column headed "without trade or profession" should be understood to include only those persons who never employ themselves in any honest endeavor. In other words, it includes only vagabonds who prey upon society either as "deadheads" or criminals. They are without any industrial training as we understand such a classification. If in the column were included those without industrial training, the figures would be more than doubled. In Spanish statistics common laborers, farm hands, unskilled domestic servants, in fact all who have been engaged in any honest employment, whether it has required previous industrial training or not, are not classified in this column; in it only the criminal parasites of society are enumerated—people who have never made an attempt to gain an honest living.

RÉSUMÉ.

Description.	Criminal processes.	Acquitted.	Condemned to hard labor.*	Condemned to correctional imprisonment.†	Previously punished.	
					For committing same offense a second time.	For committing same offense more than a second time.
Sex:	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*
Male	29,332	9,222	1,015	19,089	1,173	[illegible]
Female	3,079	1,059	34	2,000	69	6
Total	32,411	10,051	1,049	21,089	1,242	2[illegible]
Age:						624
From 9 to 15 years	1,175	561	2	612	32	8
From 15 to 25 years	2,252	420	42	1,790	463	212
From 25 to 40 years	12,256	3,820	448	7,988	515	226
From 40 to 60 years	6,564	2,608	214	3,742	193	161
Over 60 years	1,253	560	39	654	39	17
Single	16,394	4,394	545	11,455	656	364
Married	14,563	5,344	441	8,778	522	242
Widowed	1,454	535	63	856	64	18
Births:						
Legitimate	31,674	10,102	1,020	20,552	1,191	610
Illegitimate	737	171	29	537	51	14
Can read and write	14,521	5,292	538	8,691	564	275
Can read	3	3	.....	.....	.....	.....
Can not read or write	17,887	4,978	511	12,398	678	349
Occupations:						
Proprietors	505	358	29	118	7	1
Farmers	5,241	2,173	195	2,873	98	28

* For a term of years or for life. † For a term of months or years without hard labor.

RÉSUMÉ—Continued.

Description.	Criminal processes.	Acquitted.	Condemned to hard labor.*	Condemned to correctional imprisonment.†	Previously punished.	
					For committing same offense a second time.	For committing same offense more than a second time.
Occupations—Continued.						
Workingmen owning small industries	*Number.* 670	*Number.* 269	*Number.* 24	*Number.* 377	*Number.* 28	*Number.* 20
Merchants	318	142	13	163	4	7
Artisans	4,084	1,060	161	2,863	232	110
Laboring men	16,512	4,327	484	11,701	694	353
Ecclesiastics	16	10	1	5	.....	.....
Government employés	607	345	27	235	6	1
Military	59	26	2	31	2	1
Professional, artistic, scientific, or literary	213	132	5	76	1	1
Domestic servants	468	120	12	336	7	9
No trade, profession, or occupation	3,718	1,311	96	2,311	163	93

* For a term of years or for life. † For a term of months or years without hard labor.

The number of offenders that suffered the death penalty for their crimes was 15; of these 1 was for attempted assassination, 4 for assassination, and 10 for robbery and murder.

SUICIDES.

The total number of suicides attempted during 1890 was 523. Of this number 290 males and 69 females succeeded in destroying their lives, and 106 males and 58 females were resuscitated after the attempts or prevented from consummating their desire.

The known or presumed causes were as follows: Drunkenness, 14 males; love affairs, 9 males and 10 females; loss of property and lack of resources, 59 males and 17 females; sickness, 72 males and 12 females; family troubles, 32 males and 20 females; mental aberration, 76 males and 29 females; on account of crimes committed, 7 males; unknown causes, 127 males and 39 females.

Drunkenness.—Of the 14 males whose suicides were caused by drunkenness, 3 were between 18 and 25 years of age, 3 between 25 and 40 years, 6 between 40 and 60 years, 1 over 60 years, and 1 whose age was unknown. Five were single and 9 married. Thirteen were of legitimate birth and 1 illegitimate. Nine were residents of the jurisdiction reporting them and 5 residents of other jurisdictions. Four could read and write, 6 could do neither, and the education of 4 was unknown. One was a farmer, 1 a merchant, 3 artisans, 8 laborers, and 1 a Government employé.

Love affairs.—Of the 9 males and 10 females whose suicides were caused by love affairs, 1 of the females was between 15 and 18 years of age, 5 males and 6 females were between 18 and 25 years, 4 males and 2 females between 25 and 40 years, and 1 female's age was unknown. Eight males and 10 females were single and 1 male a widower. Seven males and 10 females were of legitimate birth and 2 males birth unknown. Five males and 7 females were residents of the jurisdiction reporting them and 4 males and 3 females residents of other jurisdictions. Eight males and 5 females could read and write, and 1 male and 5 females could do neither. One male was a merchant, 1 male and 1 female artisans, 2 males laborers, 2 males Government employés, 3 females domestic servants, and 3 males and 6 females professions or trades unknown.

Loss of property or lack of resources.—Of the 59 males and 17 females who committed suicide on account of loss of property or lack of resources, 9 males and 4 females were between 18 and 25 years of age, 19 males and 6 females between 25 and 40 years, 12 males and 4

females between 40 and 60 years, 7 males and 2 females were over 60 years, and the ages of 12 males and 1 female were unknown. Twenty-six males and 7 females were single, 19 males and 6 females married, 2 males and 3 females widowed, and 12 males and 1 female marital state unknown. Forty-three males and 12 females were of legitimate birth and 16 males and 5 females birth unknown. Thirty males and 8 females were reported by their own jurisdiction, and 29 males and 9 females reported by other jurisdictions. Twenty-five males and 1 female could read and write, and 24 males and 16 females could do neither. Three males were proprietors, 2 farmers, 10 artisans, 6 merchants, 11 laborers, 2 Government employés, 2 scientific or literary, 23 had no trade or profession, 4 females were domestic servants, and the others had no occupation.

Sickness.—Of the 73 males and 12 females who committed suicide on account of sickness, 1 male was between 9 and 15 years of age, 9 males and 2 females between 18 and 25 years, 16 males and 3 females between 25 and 40 years, 24 males and 4 females between 40 and 60 years, 18 males and 2 females over 60 years, and 5 males and 1 female ages unknown. Forty males and 7 females were married, 9 males and 1 female widowed, and the marital state of 4 males and 1 female unknown. Sixty-four males and 8 females were of legitimate birth and 9 males and 4 females illegitimate. Fifty-five males and 6 females were reported by their own jurisdiction and 18 males and 6 females by other jurisdictions. Thirty-one males and 3 females could read and write, and 42 males and 9 females could do neither. Of the males 2 were proprietors, 8 farmers, 4 merchants, 10 artisans, 28 laborers, 1 civil employé, 1 soldier, 2 professional, 17 no trade or profession; of the females 4 were domestic servants and the others without occupation.

Family troubles.—Of the 32 males and 20 females who suicided on account of family troubles, 1 male and 2 females were between the ages of 9 and 15 years, 2 males and 1 female between 15 and 18 years, 8 males and 3 females between 18 and 25 years, 5 males and 9 females between 25 and 40 years, 10 males and 2 females between 40 and 60 years, 6 males and 3 females ages unknown. Seventeen males and 7 females were single, 7 males and 8 females married, 2 males and 3 females widowed, and 6 males and 2 females marital state unknown. Twenty-four males and 11 females were of legitimate birth and 8 males and 9 females illegitimate. Twenty males and 11 females were reported by their own jurisdictions and 12 males and 9 females by others. Eighteen males and 8 females could read and write, and 14 males and 12 females could do neither. Of the males 3 were farmers, 1 merchant, 6 artisans, 7 laborers, 2 soldiers, 15 no trade or calling; of the women 4 were domestic servants and the others without callings.

Mental aberration.—Of the 75 males and 29 females who suicided on account of mental aberration, 1 male was between 15 and 18 years, 9 males and 4 females between 18 and 25 years, 22 males and 9 females between 25 and 40 years, 27 males and 12 females between 40 and 60 years, 14 males and 2 females over 60 years, and 2 males and 2 females ages unknown. Thirty-three males and 8 females were single, 32 males and 15 females married, 8 males and 5 females widowed, and 2 males and 1 female marital state unknown. Seventy males and 25 females were of legitimate birth and 5 males and 4 females illegitimate. Fifty-seven males and 21 females were reported by their own jurisdictions and 18 males and 8 females by other jurisdictions. Thirty-four males and 2 females could read and write, 17 males and 17 females could do neither, and the education of others unknown. Eight males were proprietors, 11 farm laborers, 19 artisans, 1 merchant, 15 laborers, 1 civil employé, 1 soldier, 4 professional, 14 no trade or profession; of the females 2 were tradeswomen, 1 professional, 3 domestic servants, and 23 without a calling or occupation.

On account of crime.—Of the 7 males who suicided on account of crime, 4 were between the ages of 18 and 25 years, 2 between 25 and 40 years, and 1 between 40 and 60 years. Five were single, 1 a widower, and the other married. All were of legitimate birth. Four were reported by their home jurisdictions and 3 by others. Four could read and write; the others could not. Three were laborers, 1 a soldier, 1 a servant, and 2 without trade or profession.

Causes unknown.—Of the 127 males and 39 females who sucided for unknown causes, 1 male was between the age of 9 and 15 years, 4 males between 15 and 18 years, 16 males and 16 females between 18 and 25 years, 20 males and 8 females between 25 and 40 years, 38 males and 10 females between 40 and 60 years, 21 males over 60 years, and the ages of 27 males and 5 females unclassified. Thirty-eight males and 17 females were single, 19 males and 13 females married, 13 males and 5 females widowed, and the marital state of 27 males and 4 females unknown. Ninety-four males and 32 females were of legitimate birth and 33 males and 7 females illegitimate. Fifty-nine males and 28 females were reported by their home jurisdictions and 67 males and 12 females by others. Fifty-one males and 7 females could read and write; the others could not. Two males were proprietors, 12 males and 5 females farm laborers, 20 males and 2 females artisans, 7 males merchants, 27 males laborers, 1 male priest, 3 males civil employés, 6 males soldiers, 3 males professional, 1 male and 7 females domestic servants, and 45 males and 25 females without trade or calling.

Table giving the number of suicides, etc., according to the methods.

Methods.	Total number.		Under 15 years of age.		Could read and write.	
	Males.	Females.	Males.	Females.	Males.	Females.
Drowning	32	21	.....	.....	9	.....
Carbonic acid gas	3	2	.....	.....	1	.....
Hanging	67	12	.....	.....	11	1
Firearms	169	11	2	1	94	4
Knives, daggers, etc	40	7	.....	.....	18	1
Poison	36	48	.....	.....	22	13
Throwing themselves from high places	37	23	1	.....	12	6
Throwing themselves before trains	8	2	.....	.....	5	.....
Unclassified	4	1	.....	.....	3	.....

Table giving the number of suicides by months.

Month.	Number.	Month.	Number.
January	33	July	65
February	40	August	50
March	44	September	40
April	47	October	32
May	63	November	31
June	49	December	29

THE BELGIAN DRAFT HORSE.

REPORT BY CONSUL ROOSEVELT, OF BRUSSELS.

Although the Belgian draft horse in origin is the oldest in Europe and the excellent qualities of the Flemish stock were renowned and esteemed as early as 1547, the careful attention necessary in breeding had for many years been greatly neglected and the stock was fast degenerating, when, some 6 or 7 years ago, a number of Belgian gentlemen, among whom I may mention Count E. de Hemricourt de Grunne and Chevalier Gaston Hynderick, joined forces and resolved that the Belgian Horse-Breeding Society should accomplish for the draft horse of Belgium what had already been realized in

the case of the Clydesdale of England, which undoubtedly sprang from this breed, as it is well known that some of the largest and finest stallions of Flanders were introduced into England for the purpose of improving the dray horse on the banks of the Clyde.

The resemblance between the gigantic and magnificent Clydesdale and the smaller but sturdy Belgian is pronounced, although the latter is the neater looking animal, not having the ungainly and dirty, shaggy feet of the former. The average Belgian horse is not above 15.2 to 15.3 hands and rarely exceeds 16.1 hands; the Clydesdale seldom stands under 16 hands and frequently reaches the enormous height of 17.3 hands.

The Société National des Eleveurs Belges, having for its object the improvement of horses for draft purposes, held its annual exhibition from June 22 to June 27 at the Park du Cinquantenairs, Brussels, which was a great success. The art and science of horse-breeding are at the present moment advancing by leaps and bounds, and the progress made during the past 6 years can only be described as phenomenal. As against 290 entries in 1886, 498 were made in 1891, while the exportation of Belgian-bred horses to the United States, Germany, and France has more than doubled.

Among the magnificent animals exhibited were Gerfant II, owned by Mr. Camille Vanderschuern, a magnificent compact roan, built like a giant, which took the champion prize in the "aged" class for stallions; Louise, owned by Count E. De Hemricourt de Grunne, a fine black, which took the prize for mares. The celebrated Heusies mare Grand-Mére, 40 years old, dam of thirty-two colts, was "prized" also.

The exhibition of Ardennes horses was most creditable. These are small, hardy animals, ranging from 14.2 to 15.2 hands, very similar in conformation to the Flemish horse, but somewhat lighter in weight. They are thoroughly good, all-round horses, admirably adapted for artillery purposes.

I am informed that King Leopold is greatly interested in horse-breeding, and, as soon as his new farm at Laeken is completed, intends to join the force of breeders.

I may mention that the "Belgian Stud Book" is now in the hands of the publishers and engravers and will appear in the fall.

GEO. W. ROOSEVELT,
Consul.

UNITED STATES CONSULATE,
Brussels, July 1, 1891.

TRADE OF SAMOA.

REPORT OF CONSUL-GENERAL SEWALL, OF APIA.

I have the honor to transmit the returns of imports and exports here for the year ending May 14, 1891, the first year under the working of the customs regulations of the Berlin act. They are the first accurate and official returns of the kind ever prepared in Samoa.

Table showing the imports and exports at Apia during the year ended May 30, 1891.

IMPORTS.

Countries.	Ports.	Amount.
Germany	Hamburg (transshipped in Sydney and direct)	$47,697
England	London (transshipped in Sydney)	1,755
South Australia	Adelaide (transshipped in Sydney)	638
New South Wales	Sydney and Newcastle	83,676
New Zealand	Auckland	91,036
German New Guinea	Mioko	948
South Sea Islands (copra in transit, $13,846)		16,785
Tahiti	Papeete	25
South America	Valparaiso	3
Hawaii Islands	Honolulu	25
Fiji Islands	Levuka	65
Victoria	Melbourne (transshipped in Sydney)	1,092
Tonga (copra in transit, $3,735)		6,457
United States	San Francisco	86,741
British Columbia	Burrard Inlet	13,565
Total		350,508

EXPORTS.

South Sea Islands		6,211
Fiji Islands	Levuka	28
Tonga (Samoan copra, $2,067)		4,879
German New Guinea	Mioko	7,176
New Zealand (Samoan copra, $7,377)	Auckland	7,929
Chile (copra)	Valparaiso	12,800
Europe (copra in transit, $17,559)	Lisbon (for orders)	97,734
New South Wales (Samoan copra)	Sydney	88
Germany (Samoan coffee)		3,428
Others (supply to ships)		3,616
Total		143,889

Table showing the declared value of exports from the consular district of Apia to the United States during the year ended June 30, 1891.

Articles.	First quarter.	Second quarter.	Third quarter.	Fourth quarter.	Total.
Island curios	$160.00				$160.00
Canvas junk				$24.00	24.00
Lime juice				126.50	126.50
Samoan curios			$200.00	12.00	212.00
Wreckage		$5,170.00		17,151.80	22,321.80
Yellow metal			498.48		498.48
Total	160.00	5,170.00	698.48	17,314.30	23,342.78

HAROLD M. SEWALL,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Apia, July, 1891.

IMPORTS AND EXPORTS OF ITALY.

REPORT BY VICE-CONSUL-GENERAL WOOD, OF ROME.

The following table shows the foreign commerce of Italy for the 6 months ended June 30, 1891, as compared with the same period of 1890:

IMPORTS.

Articles.	1891.	1890.	Increase or decrease.
	Lire.	*Lire.*	*Lire.*
Spirits, wine, and oils	15,335,313	17,962,147	— 2,426,834
Groceries, spices, and tobacco	38,608,298	41,293,689	— 2,685,391
Chemicals, drugs, resins, and perfumery	23,240,980	24,445,549	— 1,204,569
Dyes, dyestuffs, and articles for tanning	10,198,481	12,781,668	— 2,583,187
Hemp, flax, jute, etc	13,289,303	14,434,441	— 1,145,138
Cotton	112,181,928	116,613,918	— 4,431,990
Wool and hair	43,293,498	41,685,338	+ 1,608,160
Silk	41,753,082	38,655,922	+ 3,097,160
Wood and straw	19,531,642	20,401,629	— 869,987
Books and paper	6,250,424	6,182,629	+ 67,795
Skins, hides, and furs	21,406,020	22,506,188	— 1,100,168
Minerals and metals	62,831,576	89,608,011	—26,776,435
Stone, earth, pottery, and glass	72,535,656	71,832,964	+ 702,692
Cereals, flour, and vegetable products not elsewhere included	72,483,912	116,979,363	—44,495,451
Animals and animal products not elsewhere included	37,277,531	46,015,624	— 8,738,093
Miscellaneous	7,960,702	9,664,060	— 1,703,358
Total	598,178,346	690,863,140	—92,684,794
Silver and gold	19,980,800	22,098,100	— 2,117,300
Grand total	618,159,146	712,961,240	—94,802,094

EXPORTS.

Spirits, wine, and oils	68,014,618	48,781,835	+19,232,783
Groceries, spices, and tobacco	2,580,010	3,216,948	— 636,938
Chemicals, drugs, resins, and perfumery	20,258,121	24,447,151	— 4,189,030
Dyes, dyestuffs, and articles for tanning	3,907,609	4,857,150	— 949,541
Hemp, flax, jute, etc	17,994,975	22,191,817	— 4,196,842
Cotton	17,325,250	15,956,023	+ 1,369,227
Wool and hair	4,286,935	4,746,385	— 459,450
Silk	153,160,983	139,576,487	+13,584,496
Wood and straw	16,478,787	20,101,256	— 3,622,469
Books and paper	3,835,904	5,948,244	— 2,112,340
Skins, hides, and furs	12,764,695	10,845,410	+ 1,919,285
Minerals and metals	16,684,991	13,402,435	+ 3,282,556
Stone, earth, pottery, and glass	25,121,186	28,178,693	— 3,057,507
Cereals, flour, and vegetable products not elsewhere included	37,417,936	37,592,096	— 174,160
Animals and animal products not elsewhere included	47,366,800	48,532,221	— 1,165,421
Miscellaneous	5,733,041	4,746,166	+ 986,875
Total	452,931,841	433,120,317	+19,811,524
Silver and gold	28,109,400	33,915,100	— 5,805,700
Grand total	481,041,241	467,035,417	+14,005,824

CHARLES M. WOOD,
Vice-Consul-General.

UNITED STATES CONSULATE-GENERAL,
Rome, August 7, 1891.

THE BANK OF SPAIN.

REPORT BY CONSUL TURNER, OF CADIZ.

I have the honor to transmit herewith a translation of the new law relating to the Bank of Spain.

This law has to some extent unsettled values, and in a few instances merchants have refused to take bank bills in settlement of accounts. Such merchants have placed placards in their stores in conspicuous places which read "No se admiten billetes." Exchange also has an upward tendency, being quoted to-day at 26.70 pesetas to the pound sterling at 90 days' sight.

All sorts of pessimistic prophecies are made, and the opposition papers are especially diligent in predicting a financial state analogous to that of the Argentine Republic. To my mind there is no immediate danger of such a catastrophe, but of the future I am not so sanguine. The 150,000,000 pesetas which the bank loans to the Government free of interest for 30 years for the concessions granted are to be used as follows: To be applied in making up the deficit of the appropriation made by the law of July 7, 1888, for public improvements and the law of January 12, 1887, for the construction of the Spanish squadron, 83,000,000 pesetas; the remaining 63,000,000 pesetas are to be used in extending the works provided for by said laws, and appropriated as follows:

	Pesetas.
For material of war	16,000,000
For the payment of subsidies to railroads	36,000,000
To aid in improvements of ports	6,000,000
For works intended to prevent inundations of the River Segura	3,500,000
For those of the rivers Jucar and Záncara	500,000

The 50,000,000 pesetas that were paid this month are to be used as follows:

	Pesetas.
For the construction of the squadron	25,000,000
For material of war	8,000,000
For canals and rivers	12,250,000
For prevention of inundations	1,750,000
Total	47,000,000

No provision has been made for the expenditure of the remaining 3,000,000 pesetas. It will be observed that the metallic reserve of the bank is to be one-third of its paper circulation, and that said circulation and deposits and current liabilities are to be limited to the sum of this reserve added to the collateral stock, bonds, and other commercial papers left with the bank to secure loans that can not be made for a period of time exceeding 90 days. Of the metallic reserve at least one-half is to be gold. In other words, the paper circulation of the bank is to be based upon a reserve of one-sixth gold, one-sixth silver, and four-sixths of assets made up of commercial collateral

securities. Loans are made to individuals to the amount of 80 per cent. of the market value of the collateral deposited. Loans made without collateral must be upon 90-day promissory notes signed by three merchants or property-holders.

R. W. TURNER,
Consul.

UNITED STATES CONSULATE,
Cadiz, July 18, 1891.

NEW LAW RELATING TO THE BANK OF SPAIN.

[Inclosure in Consul Turner's report.—Translation.]

I, Alfonso XIII, by the grace of God King of Spain, decree the following law to all to whom these presents shall come:

ARTICLE 1. The Bank of Spain shall have power to issue bills in the sum of 1,500,000,000 pesetas, always reserving in its vaults metallic (bars of gold or silver) stock equal to the third part of the bills in circulation, and at least half of this third part shall be in gold.

ART. 2. The smallest bill issued shall be of 25 pesetas.

ART. 3. The duration of the National Bank of Spain, established by the decreed law of March 19, 1874, is extended until December 31, 1921.

ART. 4. In compensation for these concessions the Bank of Spain will place at the disposal of the public treasury 150,000,000 pesetas, on which there shall be no right to collect interest, neither the right to recover principal until December 31, 1921, on which day the bank shall be reimbursed. The minister of finance shall dispose of this loan with regard to the laws and necessities of the treasury on the following dates: July 1, 1891, 50,000,000 pesetas; July 1, 1892, 50,000,000 pesetas; the remainder July 1, 1893.

ART. 5. The sum of bills in circulation, united to the amount represented by actual cash deposits and by current liabilities, shall not exceed in any case the value of metallic stock of bars of gold and silver, policies, loans, and credits, with guaranties made in harmony with the statutes; and discountable assets must be realizable within 90 days. Among the values enumerated in the previous paragraph shall be considered, as heretofore, the public debt 4 per cent. amortizable bonds of the State, as well as the shares of the Compañia Arrendataria de Tabacos, indorsed by the same (that is, by the Compañia Arrendataria de Tabacos), that had their origin in the law of April 22, 1887, and the bills and warrants of the treasury representative of the floating debt issued in compliance with the law of June 13, 1888.

ART. 6. The bank, by agreement with the Government, shall create branches or subtreasuries in the places in which they are required by the necessities of commerce and industry.

ART. 7. The bank may make loans upon real estate securities, obligations of railroads, and other industrial or commercial values, according to the formalities and conditions provided by its statutes.

ART. 8. The foregoing articles modify, in the terms prescribed, the second paragraph of article 1, the second paragraph of article 2, and the first paragraph of article 3 of the decreed law of March 19, 1874.

Therefore, we command all the tribunals, justices, chiefs, governors, as well as military and ecclesiastical authorities of whatever class or dignity, to observe and cause to be observed, complied with, and to execute the present law in all its parts.

Given in the palace the 14th of July, 1891.

AGRICULTURE AND COMMERCE OF MALAGA.

REPORT BY CONSUL NEWSON.

PRODUCTS OF MALAGA.

The superficial area of the province of Malaga measures 734,879 hectares, or 1,837,197 acres, of which 266,704 hectares, or 666,760 acres—about one-third of the whole area—is dry land, that is, soil not irrigated by water, being devoted to wheat, barley, maize, corn, *garbanzos* (chick-peas, a great article of home consumption and of exportation), beans, and rye. Of this 9,521 hectares, or 23,802 acres, are on irrigated land, which, of course, yields more plentifully than the nonirrigated; 112,872 hectares, or 282,180 acres, are devoted to the growth of the grape; 41,603 hectares, or 104,007 acres, are under olive trees. Other large areas, embracing many acres, are given up to the cultivation of the orange, lemon, *chirimoya* (custard apple, an American fruit), fig, plum (ten varieties), cherry (five varieties), mulberry, pomegranate, banana, apple, peach, pear, black pepper, walnut, chestnut, lime, *prisco* (a species of peach), and apricot. Of late years the almond tree is receiving much attention, as there is great demand for this excellent nut, and a good many are now being exported to the United States and to England. The total yield reported from these acres for the years 1886 and 1887 was as follows:

	Bushels.
Wheat	932,500
Barley	313,444
Maize	78,357
Chick-peas	30,448
Beans	57,033
Rye	32

Besides these, 53,615 acres were devoted to an extensive variety of leguminous plants, such as cabbages, potatoes, tomatoes, pepper, radishes, lettuce, celery, cucumbers, etc. Sugar cane grew in great abundance until killed by cold weather.

GRAPES.

The grapevine lands of this province, once the source of so much prosperity, and furnishing such constant and remunerative employment to so many, have for several years past greatly deteriorated in value, growing out of the loss of vines, hundreds of acres having been devastated by that terrible disease which so tenaciously attacked the roots of the old vines and nearly exterminated them. Vines which had borne almost uninterruptedly for hundreds of years gave way under the attack of thousands of little insects which infected the roots, and many cultivators of the grape have been ruined by the disaster. The vineyard districts of the province are now reduced to two prominent varieties of grapes—the Pedro Ximen and muscatel—although many other varieties are raised in small quantities. Other classes

have totally disappeared, chiefly owing to the ravages of the mildew and phylloxera.

Of the 283,175 acres of vines cultivated in 1884, 57,104 acres were totally lost from the ravages of the insects, over 96,000 acres were partially affected, and 17,000 acres were contaminated, leaving 71,807 acres not then affected, but which have since become almost worthless, as the vines have been killed. During the years 1888–'90 the loss of the vines was very great, so that the exportation of raisins from this consular district alone fell from 641,835 boxes in 1886 to 70,456 boxes for the fiscal year ended June 30, 1891, being a decrease of 571,379 boxes in 4 years. There was a decrease also in the fiscal year 1890–'91 of 35,300 boxes, so that one can readily see, from the official figures here given, that the Spanish grapevines, which for hundreds of years had borne abundantly, were in a fair way to be totally annihilated unless something was quickly done to arrest the evil.

During 1887 some 8,000 acres were planted with American cuttings, and in this act there seemed to be a solution to the question whether the American vines shall supersede the Spanish.

The introduction of the American cuttings is by planting, and, when they have taken root, then to graft on their branches the Spanish vines. When it is scientifically executed, that is, when the cuttings in the grafting are secured from exposure to the air, it is almost invariably successful; but when done in a shiftless manner—exposed to the air—then it proves a failure. I think it will prove much better in the end to raise the American grapes from the seed, for it has been shown by repeated experiments that, while the insects devour the roots of the old Spanish vines, they will not touch the roots of the new American cuttings.

A low estimate by good authority places the number of American cuttings which have been introduced into this province and into other parts of Spain during the past 3 or 4 years at 50,000,000. In and about Malaga, with some few exceptions, the vines of the American cuttings with the Spanish graft look exceedingly well; and one is proud as he rides along the Alicante road and other roads just outside of the city and sees thousands of vines, green and luxuriant, in immense fields, all in a healthy condition, and knows that the best parts of these vines came from the United States. Columbus went out from Spain in 1492 and discovered America, and now that young and thrifty nation is sending back some of the fruits of her industry and her enterprise. Of course, the growth of grape culture in California has greatly affected the business here, for, just in proportion as the vines grow and produce good crops of grapes or otherwise, just in like proportion is the business of raising, curing, packing, and exporting raisins either accelerated or retarded; so there has been a great decrease in raisins, as already shown, first, from the disease of the vines here, and, second, from California competition.

RAISINS.

At Denia, Spain, about 320 miles from Malaga, on the Mediterranean, the grape is extensively cultivated and is rapidly coming into competition

with this market. While the article is not so good as the muscatel, yet the rapid process of curing permits their export at much cheaper figures and much earlier than from here. There the grape is dipped into hot lye, and it is a raisin in a few days. Here it takes 2 weeks to cure the muscatel, but when cured it is the best raisin in the world, the California raisin, perhaps, excepted. The best raisins are sent to England, the next best to the United States. The Denia raisins are used almost exclusively for pies, puddings, etc., because they are cheaper.

The following table shows the export of raisins from the province of Malaga to the United States from 1878 to 1891, inclusive:

Year.	Boxes.	Year.	Boxes.
1878	1,146,810	1885	671,088
1879	1,141,560	1886	491,936
1880	1,119,959	1887	333,758
1881	988,784	1888	110,732
1882	1,037,372	1889	94,766
1883	868,584	1890	84,602
1884	721,491	1891	70,456

This decrease has arisen from the causes already given. Of course, the duty of 2½ cents per pound has something to do with the matter; but the primary and principal elements of decrease have been, as already stated, the disease of the vines and the competition of California. The vines this year, however, are looking well, and many have hopes that the American cuttings will prove a success, and, in that case, the Spaniards will always be grateful, or ought to be, to the United States for a restoration of this important branch of their industry.

RAISIN-MAKING.

The process of converting grapes into raisins is very simple. When the grapes are thoroughly ripened, they are picked in bunches, with their stems, and laid upon boards with wooden frames, slanting at an elevation of 45° toward the west, or on sandy ground sloping so that the afternoon sun can be utilized. Coarse cloth is used to cover them at night to keep off any dew, if there should be any. It should be borne in mind that there is no rain here in summer, or the grapes could not thus be cured. They are then turned over from time to time, until, at the end of 2 or 3 weeks, they become raisins, some appearing on the stems just as the branches come from the original stock, while others are picked from the stems and packed singly by hand into boxes. The muscatel grape makes the largest raisin. They are very delicate and will not bear transshipment. The vines are usually planted 8 feet apart, and are never trailed, but are permitted to grow as bushes, not reaching ordinarily over 4 feet in height. They are cultivated by keeping the grass out from between the rows and the soil loose. The bunches are sometimes turned toward the sun while growing on the vine, to ripen the fruit, which hangs in clusters near the ground. The Denia grapes are dipped

in hot lye, as already explained, and hence are cured much quicker than other grapes, but present a less attractive appearance than the Malaga variety.

One muscatel grapevine about 130 years old grows in an annex to a large coffeehouse here and has not been attacked by disease. Its trunk is 1 foot in diameter, and its luscious fruit hangs in large bunches on trellis-work over the heads of the customers while they sip their wines and ice cream in the cool of the evening.

THE LEMON.

This article of exportation is not as attractive or as desirable or in any way as good as the thin-skinned lemon of Italy, Portugal, or Brazil, or even Mexico, to say nothing of California; and yet in previous years many were exported to the United States, although the amount has been gradually diminishing for years, so that, while 62,713 quarter boxes were shipped in 1886, only 42,770 quarter boxes were exported during the fiscal year ended June 30, 1891, a decrease of 19,943 quarter boxes. Two causes have operated to produce this result—first, the competition from abroad, and, second, the ravages of the disease among the trees known as the "serpeta" or "pulgon" (blight), which consists of a gummy matter which oozes from the trees and exhausts their vitality. The tree flourishes best in the interior valleys, but is sometimes injured by frosts, being delicate in its nature. I am inclined to think that gradually lemons of better quality from other countries will eventually crowd out from exportation to the United States the lemon of this province. The lime tree thrives well and bears abundantly.

THE ORANGE.

This is a good fruit, some varieties being especially fine, while others are thick-skinned and pithy. The trees are sometimes affected with the same disease as that which attacks the lemon, and yet they appear to be more hardy. An orange orchard is a beautiful sight, and the oranges of the province of Malaga are excellent. In 1885 there were 1,144 boxes shipped to the United States, 5,395 boxes in 1886, 8,763 boxes in 1887, none in 1889 (owing to the destruction of the fruit by cold weather), and 1,981 boxes in 1890, an increase of only 937 boxes in 4 years. In 1881 10,861 boxes were shipped to the United States, the largest amount on record, and from that time onward shipments have been variable. As this species of fruit gains ground in California and elsewhere, the exportation from this port may prove merely nominal.

THE ALMOND.

The trade in this delicious nut is steadily increasing, jumping from 10,406 boxes exported in 1885 to the United States to 29,439 boxes for the fiscal year 1890–'91, or 31,147 boxes for the calendar year 1890, showing a gain of nearly 20,000 boxes over the last shipment. The tree is hardy and will grow almost anywhere without cultivation. I have seen them growing on the almost perpendicular sides of mountains, on the tops of mountains, in

the valleys by the roadsides, in fields, apparently right out of rocks, clearly indicating what a strong hold they have on life. When in blossom they present a beautiful appearance.

THE OLIVE.

This is one of the oldest trees on record in this province, some of them in this vicinity having reached the age of from 300 to 500 years. They are generally small, and most of them have only part of the trunk of the tree left, while new branches shoot out from the deformed body and bear the fruit. The olive trade with the United States is steadily decreasing. In 1886 1,638 tin cases were shipped to the United States; in 1890–'91 only 57 cases were shipped, a decrease of 1,781 cases for that year alone. Olive oil is also decreasing, the shipments for the fiscal year ended June 30, 1890, being 1,775 cases, while for the fiscal year ended June 30, 1891, only 310 cases were shipped, being a decrease of 1,465 cases.

PALM-LEAF HATS.

There has been a pretty uniform and steady growth in the exportation of this article to the United States, as the following table will show:

Year.	Quantity.	Year.	Quantity.
	Bales.		*Bales.*
1885	743	1888	1,320
1886	1,507	1889	1,321
1887	1,921	1890	1,051

In 1889–'90 1,219 bales were exported and 1,028 bales in 1890–'91, a decrease of 191 bales. Still, it is a promising and growing trade, and when financial matters have assumed better shape in this province no doubt the exportations will increase.

WINE.

The same sliding scale of decrease which has followed the exportations of raisins, lemons, and other articles from this province during this fiscal year has followed wine. Of course, the loss of the grape has caused a decreased wine product. I find that for the fiscal year 1889–'90 there were 35,200 gallons shipped to the United States, against 28,960 gallons in 1890–'91, a decrease of 6,240 gallons. I append the following table of exportations of wine to the United States:

Year.	Quantity.	Year.	Quantity.
	Gallons.		*Gallons.*
1885	28,760	1888	25,880
1886	43,680	1889	30,760
1887	27,360	1890	37,840

There are a great many varieties of wines in this province, but that which is considered the best by good judges is the muscatel, or Malaga, a very delicious sweet wine some 95 years old. The many wine houses here ship largely to France, Ireland, England, Germany, and the United States; but California wines and the tariff are cutting into the Spanish trade very materially. Many Spanish wines when they reach their destination are adulterated, and, possibly, some may be even here; but a good, pure, Spanish wine is more apt to be obtained here than in places outside, where other wines are mixed with it and it is sold for the genuine article.

FIGS.

In figs there has been an increase over former years. For the fiscal year just ended (1890–'91) the increase was 1,065 mats over the previous fiscal year. The fig tree is a prolific bearer and produces two kinds of fruit in the season—one following the other—from the same tree, and the figs are excellent. The tree has a large, fine leaf, and is considered healthy and hardy.

LEAD FOR THE UNITED STATES.

The most noticeable increase of exportation to the United States for the fiscal year is lead, which reached 38,089 pigs. Last year there was no shipment to the United States of this article. It is somewhat queer that Spain should ship lead to the United States when our country is full of it, and how it is done with a profit I can not understand, unless it may be by very cheap labor, as illustrated in the case of iron ore.

IRON ORE FOR THE UNITED STATES.

If an American who knows the resources of his country is surprised at the shipment of 38,089 pigs of lead from Spain to the United States, he is more surprised to learn that 58,595 tons of iron ore were shipped from Marbella, in this consular district, to the United States during the past fiscal year, the value of which was $227,704. The ore was dispatched on twenty-six vessels. A small quantity of iron ore was also shipped to the United States from Almeria, in this consular district. How iron ore from Spain can be carried to the United States and sold at a profit can only be accounted for by the fact that it must be very pure iron ore and extracted from the mines at a very low price—wages in the mines here are only from 40 to 50 cents per day—and that the vessels which carry it to the United States must do so at ruinously low rates. The United States abounds with lead and iron ore; but we pay our laborers and mechanics and miners from $2 to $3 per day, while here 60 cents per day is the highest wages and is considered an extraordinarily good price. This is the reason why iron ore and lead get to our country, and this is going on all through Europe. In the United States day laborers get from $1 to $1.50 per day, here 30 or 40 cents per day; masons there get from $3 to $3.50 per day, here 50 or 60 cents per day; American mechanics get $18 per week, Spanish mechanics get $3.60 per

week. This tells the whole story; cheap labor enables Spain to send iron ore and lead to the United States.

EXPORTS TO THE UNITED STATES.

Having gone through in detail with the principal articles of exportation to the United States during the fiscal year ended June 30, 1891, I herewith give a table in full for the fiscal years 1889–'90 and 1890–'91, so the reader can form his own conclusion.

Table showing the exports to the United States from Malaga for the fiscal years 1889–'90 and 1890–'91.

Articles.		1889–'90.	1890–'91.	Increase.	Decrease.
Almonds	boxes	28,812	29,439	627	.....
Aniseed	bags	.....	100	100	.....
Beans	do	135	527	392	.....
Brandy	cases	75	50	.....	25
Colocynth	boxes	47	80	32	.....
Chick-peas	bags	.....	10	10	.....
Figs	mats	450	1,515	1,065	.....
Fish	cases	.....	30	30	.....
Furniture	do	21	.....	.....	21
Grapes	barrels	11,914	14,387	3,473	.....
Hats	bales	1,219	1,028	.....	191
Lemons	quarter boxes	48,660	42,770	.....	5,890
Lead	pigs	.....	38,089	38,089	.....
Models	boxes	.....	2	2	.....
Orange peel	bales	30	59	29	.....
Oranges	boxes	.....	1,981	1,981	.....
Olive oil	tin cases	1,775	310	.....	1,465
Olives	cases	57	.....	.....	57
Oil paintings	do	.....	1	1	.....
Pomegranates	boxes	1,921	2,371	450	.....
Raisins	do	105,756	70,456	.....	35,300
Red pepper	cases	270	210	40	.....
Sundries	do	25	43	18	.....
Soap stock	do	25	.....	.....	25
Works of art	packages	13	2	.....	11
Wine	gallons	35,200	28,960	.....	6,240

OPENINGS FOR AMERICAN TRADE.

A bright American could do well in Malaga if he would come here with an ordinary amount of capital and bring with him all kinds of American inventions of small articles, coupled with a general variety of notions, as the Spaniards take to these things, and with an American to show them they would sell well.

A large retail ready-made clothing store would succeed here if conducted in person by an American who knew his business. Of course, it would be close competition with England, but the clothing could be shipped on sailing vessels and sold at a fair price. I am quite positive that such a business would be very popular and pay well.

Grain cutters, thrashers, separators, and other agricultural machinery could be made available and popular if introduced and worked by Ameri-

cans. One could take the contract to cut all the grain in this province and thrash it. As soon as the Spaniards could "catch on" (and they would do so very soon), the articles could be introduced into Spain, and, once in use, would never be abandoned. It is all nonsense to send the articles here and trust them to persons who know nothing about them. A man must come with them, and be with them, and explain them. The old Roman way of treading out the grain by horses, which is now the universal custom here, would give way to the more advanced thought of the New World.

T. M. NEWSON,
Consul.

UNITED STATES CONSULATE,
Malaga, July 26, 1891.

ARTIFICIAL OYSTER CULTURE IN FRANCE.

REPORT BY CONSUL KNOWLES, OF BORDEAUX.

In 1872 the increased price of oysters in France attracted public attention. Those who were commissioned to investigate the cause found that it was due, in the first place, to the diminished supply; second, to the increased demand for the mollusk in Russia, Germany, and other countries; and, third, to the establishment of a monopoly by the great dredging companies. The Economiste Français drew a comparison in the relative price of oysters per hundred, covering a period of some 20 years or more. For example, in 1840 oysters were to be had for 23 cents a hundred; in 1856 the same quantity commanded 55 cents; in 1860 they were quoted at 90 cents; in 1868, at $1.45; and in 1872, at $2.60.

The increased demand was natural. The dredging monopoly could not well be attacked, but the French Government immediately set about increasing the general supply by having investigations made by experts and by offering certain encouragements to the owners of beds. Artificial cultivation was the method suggested, and that the results have been profitable there can be no doubt.

The oyster is one of the most prolific breeders known to natural history. Leeuwenhoek calculated that from 3,000 to 4,000 spawn exist in the ordinary-sized bivalve at breeding time. Poli declares that a single oyster is capable of producing 1,200,000 eggs. Other scientists have placed the number as high as 2,000,000; but, admitting Poli's estimate to be the correct one, it would seem that the supply of these favored dainties would at least approximately meet the demand. Yet such is not the case; for, when the parent expels its young, which have been previously hatched within the shell, many are carried away by the current to unsuitable situations, where they either die or are devoured by fish. Those immediately finding an object to which they can attach themselves thrive.

Oysters thrive equally well in situations where they are constantly under water and in those which are left dry at low tide. The methods of provid-

ing artificial beds are varied in accordance with the nature of the bottom and the probable violence of wind and wave. Experience in France has proved that tiles covered with cement and immersed along the beach afford the most advantageous means of catching these shellfish. These objects present a surface to which the mollusk can best attach itself and from which it can afterwards be readily detached by the fisherman. Then, again, these portable bits of brick and mortar can easily be moved or transferred from place to place. This is a matter not to be ignored, for it is often found by the cultivator that, after having caught the oyster or after having found a successful breeding place for the same, the process of fattening requires the temperature of an entirely different shoal.

One of the most important spots in France where attention is given to the culture of the oyster is Arcachon, a little fishing village and summer resort situated on one of the great basins or inlets of the Bay of Biscay and not a great distance from the city of Bordeaux. The Bay of Arcachon was at one period crowded with natural oyster beds; but, in course of time and owing to excessive dredging, they became almost completely exhausted. To-day the industry has again assumed its pristine proportions, for the bivalves are cultivated artificially and nurtured with the greatest attention and care. The entire sea bottom, or that portion of the bay that can with facility be dredged, is divided into inclosures by the driving in of stakes. In the inlet of Arcachon over 12,600 acres are given over to these inclosures. In some instances nets are attached to the marine fences for the purpose of excluding fish or lobsters, which are great lovers of the luscious oyster when in the state of early development. It is within these beds—or "parks," as they are called—that the tiles before mentioned are immersed. These mortar-covered fire-bricks usually have a surface of about 2 square feet and offer a resting place for five or six hundred mollusks. Upon this object the oyster grows famously; so rapid is its progress, in fact, that it is often found necessary for the proprietor of the "park" to raise the numerous tiles to the surface in order to scrape off the bivalves, while he sinks an additional hundred or so of these objects that there may be afforded a new and more commodious home for those which have been detached from their first resting place.

The dredging, of course, takes place during the season, which in Europe, as in America, extends over all the months of the year containing in their spelling the letter "r." The French oysters are distinctly different in their appearance and taste from their transatlantic brethren. The shells are not so deep as those of Blue Point, Chesapeake, Shrewsbury, or Rockaway. The oyster itself is of a greenish tinge, and their flavor is excellent. They are eaten always raw and served on the half shell. The French never cook the oyster, nor can they understand how it is possible to eat them in that state. This seems more than odd in a country which has such a wide reputation for the variety of its dishes and the excellence of its cuisine.

The history of the oyster has been too often told to suffer repetition here. Certain it is that the favored dainty was highly popular with the ancients,

for Pliny, to whom one may always go for information, states that their cultivation was practiced extensively along the Tyrrhenian coast, and that one Sergius Orata, who had an oyster bed at Baiæ, "not for gluttony, but for the sake of gain," derived a large income from the same. Alexander, in his conquest of India (B. C. 324), declares that he found oysters a foot long. Modern fishermen may accept or distrust this assertion, as they like; for, whereas the illustrious Grecian general was noted for his integrity, there is no subject which favors in such a pronounced degree the fanciful flights of the imagination as that which is represented by the twelfth sign of the zodiac.

I judge that along the American coast the supply of oysters fully meets the demand, and that to resort to artificial cultivation would offer no great advantages to owners of beds. Nevertheless, I am confident that their yield would be signally increased were oystermen to avail themselves of the French system. As to the method of fencing in of beds, it is a question whether it would offer in America the same advantage that it does here, for it is possible that the fish which inhabit our waters are not so destructive as the species found off the coast of France, some of which extract the oyster by boring completely through the shell.

The rejuvenation of the industry at Arcachon, however, as well as in other seacoast towns of France, is an evidence of how readily the mollusk yields to care and cultivation.

HORACE G. KNOWLES,
Consul.

UNITED STATES CONSULATE,
Bordeaux, August 19, 1891.

AFFAIRS IN TRINIDAD AND TOBAGO.

REPORT BY CONSUL PIERCE, OF TRINIDAD.

What is known as the "Blue Book Dispatch" of the governor of this colony for the year 1890 is so full of valuable information in respect to the trade and resources of the colony that I beg to submit herewith a published copy thereof.

WM. P. PIERCE,
Consul.

UNITED STATES CONSULATE,
Trinidad, July 24, 1891.

EXTRACTS FROM THE BLUE BOOK FOR TRINIDAD AND TOBAGO.

[Inclosure in Consul Pierce's report.—Governor Robinson to Lord Knutsford.]

TRINIDAD.

Taxes and duties.

The schedule of taxes and duties remained the same as in 1889, with the exception that cocoanuts were added to the list of products on which an export duty is levied for immigration purposes.

It was argued by the sugar-planters and cocoa proprietors, and very properly so, that as the owners of cocoanut estates were now allowed a direct share in the benefits of immigration, they ought directly to contribute towards its cost. An export duty at the rate of 1*s.* 6*d.* per 1,000 was accordingly imposed on cocoanuts, but this was, with Your Lordship's approval, subsequently reduced to 1*s.* per 1,000 as being a more equitable charge.

Revenue.

The revenue of the year was £468,559 12*s.* 3½*d.* and the expenditures £475,244 4*s.* 11*d.*, showing that the payments exceeded the receipts by £6,684 12*s.* 7½*d.* The revenue, however, exceeded the estimate framed for the year by £1,688 13*s.* 11½*d.* and was in excess of the amount collected in 1889 by £15,285 1½*d.*

The principal items which contributed towards this increase in revenue were:

Description.	1889.	1890.	Increase.
Customs	£190,684	£206,262	£15,578
Land revenue	16,063	16,820	757
Land and house tax	30,903	31,689	786
Postage	6,823	7,732	909
Fees of office	3,182	3,739	557
Miscellaneous receipts	661	1,294	633
Interest	5,690	6,113	423
Legacy duty	747	1,287	540
Railways	51,054	51,912	858

On the other hand, there was a falling off in the receipts from the following sources:

Description.	1889.	1890.	Decrease.
Excise	£96,431	£92,752	£3,679
Licenses	26,151	25,321	830
Fines, forfeitures, and fees of court	9,343	8,995	348
Reimbursements in aid	12,361	11,643	718

The decline in the excise revenue, to which I last year drew attention, still continues. This, although tending to disturb the equilibrium of the budget, is nevertheless a matter for congratulation if it is attributable to a falling off in the consumption of alcohol. I append a table showing the receipts for the last 10 years:

Year.	Rate of duty.	Rum duty.	Import duty.	Total.
1881	5*s.* per gallon	£93,651	£1,436	£95,087
1882	6*s.* per gallon	84,481	20,091	104,572
1883	do.	83,703	21,269	104,972
1884	do.	96,805	7,321	104,126
1885	do.	86,061	5,530	91,591
1886	6*s.* 6*d.* per gallon	93,656	2,448	96,104
1887	do.	98,754	1,549	100,303
1888	do.	103,498	820	104,313
1889	do.	96,431	672	97,103
1890	do.	92,752	155	92,907

The revenue derived from the pitch lake in 1890 was: Export duty, £21,040 8*s.* 4*d.*; royalty, £5,703 18*s.* 4*d.*; total, £26,744 6*s.* 8*d.*

Expenditures.

The expenditures exceeded the estimate for the year by £13,306 10*s.* 11½*d.* and the payments in 1889 by £12,022 12*s.* 9*d.* The principal items which exceeded the estimates made for them in 1890 were:

Description.	Estimate.	Expenditure.	Excess.
Pensions	£9,450	£10,479	£1,029
Police (exclusive of establishment)	7,726	8,054	328
Hospitals	35,725	38,073	2,348
Transport	600	930	330
Miscellaneous services	8,771	16,609	7,838
Interest	3,600	3,997	397
Drawbacks and refund of duties	5,000	5,408	408
Botanic gardens	2,000	2,553	553
Military	2,500	4,577	2,077
Public works	71,223	74,810	3,587

Vital statistics.

In his very elaborate and valuable report on the statistics of the year 1890 the acting registrar-general, Mr. H. J. Clark, has pointed out that in the former years of the past decade the population of the colony appears to have been considerably underestimated. The following return will show the extent to which this has been the case:

Year.	Old estimate.	Mr. Clark's estimate.
1881	153,128	156,616
1882	157,628	163,507
1883	162,128	169,680
1884	166,628	175,810
1885	171,914	181,454
1886	178,270	188,298
1887	183,486	193,785
1888	189,566	198,934
1889	196,192	205,047
1890	.....	211,013

The recent census returns, however, go to prove that Mr. Clark's estimate is rather over the mark.

The mean population of the year has been estimated at 208,030, made up as follows:

	Number.
General population	139,030
Natives of India	44,500
Born of East Indian parents	24,500
Total	208,030

The births and deaths of the year were as follows:

Description.	Indian immigrants.	Other population.	Total.	Rate per 1,000.
	Number.	*Number.*	*Number.*	
Births	1,927	4,730	6,657	32
Deaths	1,828	3,784	5,612	26.97

The birth and death rates of these two sections of the community were as follows:

Description.	Total population.	Birth rate per 1,000.	Death rate per 1,000.
	Number.		
Indian immigrants	69,000	27.93	26.49
Other population	139,030	34.02	27.22

During 1890 986 marriages were celebrated, the largest number that, except in the calamitous cholera year (1854), has ever been recorded in any one year. They were divided as follows:

	Number.
Roman Catholic church	486
Church of England	301
Wesleyan church	81
Presbyterian church	74
Baptist Missionary Society	28
Before the registrar	16
Total	986

Of the persons married 44.8 per cent. were unable to sign the marriage register.

Imports and exports.

The following table will show the growth and variation of trade in the last 10 years:

IMPORTS.

Year.	From United Kingdom.	From other British colonies.	From foreign countries.	Total.	Total value, exclusive of bullion and specie.
1881	£828,444	£229,211	£1,168,621	£2,226,276	£1,615,088
1882	808,371	234,323	1,357,100	2,399,795	1,612,564
1883	877,916	269,554	1,515,552	2,663,022	1,693,264
1884	887,011	254,339	1,942,520	3,083,870	1,831,903
1885	654,704	240,523	1,346,251	2,241,478	1,512,314
1886	666,499	271,004	1,566,011	2,503,514	1,543,507
1887	751,510	276,281	890,879	1,918,670	1,647,029
1888	794,427	212,547	936,815	1,943,789	1,678,972
1889	763,891	207,849	1,122,192	2,093,932	1,679,944
1890	822,280	228,087	1,198,526	2,248,893	1,831,803

EXPORTS.

Year.	To United Kingdom.	To other British colonies.	To foreign countries.	Total.	Total value, exclusive of bullion and specie.
1881	£995,925	£112,016	£991,160	£2,099,101	£1,462,761
1882	1,076,456	137,628	1,237,949	2,452,033	1,729,418
1883	813,574	101,799	1,771,297	2,686,670	1,759,376
1884	863,290	91,795	1,814,642	2,769,727	1,581,092
1885	1,186,420	53,286	1,006,958	2,246,664	1,539,243
1886	949,622	54,809	1,504,709	2,509,140	1,560,336
1887	748,551	44,796	1,077,265	1,870,612	1,654,269
1888	861,634	60,338	1,210,789	2,132,761	1,904,192
1889	972,473	56,960	1,279,399	2,308,832	1,856,651
1890	857,024	111,012	1,211,396	2,179,432	1,765,931

The value of the imports of 1890 was £2,248,893 and of the exports £2,179,432.

It is a noticeable fact that in the expansion of trade that has taken place in these 10 years the United Kingdom has had no share, but that, on the contrary, the commercial ties which bind the colony to the mother country are being gradually weakened. The United States, as the following returns will show, appear slowly but surely to be absorbing our export trade:

Table showing the trade with the United States from 1881 to 1890, inclusive.

Year.	Imports.	Exports.
1881	£397,854	£193,703
1882	402,971	341,946
1883	438,271	716,513
1884	425,572	608,194
1885	394,496	564,458
1886	351,951	634,368
1887	360,537	722,813
1888	349,863	668,578
1889	382,520	763,426
1890	428,563	725,000

I append a return of the quantities of the principal staples exported in the last 10 years:

Year.	Coffee.	Asphalt.			Cocoanuts.	Bitters and liquors.
		Raw.	Boiled.	Total.		
	Pounds.	*Tons.*	*Tons.*	*Tons.*	*Number.*	*Gallons.*
1881	41,870	.....	.....	26,605	6,644,218	28,708
1882	38,204	.....	.....	30,760	8,071,435	30,633
1883	40,822	.....	.....	38,145	8,826,500	32,925
1884	14,960	33,383	6,562	.....	11,276,339	32,381
1885	20,270	28,505	6,731	.....	9,645,700	32,240
1886	20,052	30,255	5,416	35,671	9,013,200	35,355
1887	8,380	35,070	8,027	43,099	7,365,295	35,143
1888	4,480	40,792	11,236	52,028	12,366,592	42,830
1889	29,774	66,565	11,559	78,124	11,495,471	43,692
1890	12,597	68,201	10,640	78,841	12,739,904	43,266

Year.	Sugar.	Molasses.	Rum.	Cocoa.
	Pounds.	*Gallons.*	*Gallons.*	*Pounds.*
1881	97,682,267	1,417,550	935	10,809,796
1882	123,931,724	2,067,859	1,909	10,972,687
1883	122,070,784	1,982,176	2,394	11,649,785
1884	136,552,804	2,245,650	43,581	12,098,770
1885	142,641,411	2,416,761	72,525	13,729,565
1886	108,523,940	2,220,288	16,181	17,913,037
1887	149,800,919	2,542,225	35,571	11,927,067
1888	122,491,220	1,948,569	97,974	21,352,312
1889	112,368,762	2,234,724	20,015	15,335,228
1890	115,239,227	2,024,884	20,469	21,552,593

The value of the fruit exported during the year was £1,569.

The revenue derived from customs duties was £206,262, being £13,931 in excess of the estimate and £15,578 in excess of the receipts in 1889. The following articles contributed to this increase:

Articles.	1889.	1890.	Increase.
Bread	£1,883	£2,149	£266
Butter	2,559	3,292	733
Flour	19,187	19,976	789
Hardware	1,901	2,397	496
Leather (manufactured)	1,459	2,171	712
Malt liquor	4,999	5,809	810
Opium	2,594	2,875	281
Oil:			
Kerosene	14,652	16,758	2,106
Cocoanut	1,351	2,709	1,358
Olive	1,392	2,141	749
Sugar	2,086	2,955	869
Spirits of all kinds	14,586	14,796	210
Timber	3,066	4,577	1,511
Tobacco of all kinds	29,296	31,617	2,321
Textiles	8,623	11,251	2,628
Wines of all kinds	10,212	13,226	3,014

As no change was made in the tariff of duties, this increased revenue may, I think, be regarded as a sure proof of the increasing prosperity of the island. There was no marked decrease in any article of import.

Fruit trade.

I am happy to be able to report that this industry, which I foresee will be of incalculable benefit to the colony, and which I have spared no endeavor to promote, has at length commenced to show some encouraging results. The central agricultural board, a most useful and influential association, has energetically worked with me in this object and has been the means of stimulating enterprise and spreading valuable information throughout the length and breadth of the island by its discussions and publications.

It was in the spring of 1889 that small shipments of fruit, chiefly oranges and bananas, were first made to the American markets by the newly subsidized line of steamers. These shipments were necessarily of an experimental character and produced very varying results, some fruits fetching fair prices and others being sold at a loss. This, however, is not difficult to account for. The shipments were of a spasmodic character, and the process of picking and packing, which demands the greatest care, was but little understood. Our first operations, too, were commenced at a rather unfavorable period of the year, in which Trinidad fruit had to compete with that from other well-known fruit-growing countries, where the requirements of the market were thoroughly understood; and it is not surprising, therefore, that the pioneers of the new industry were somewhat disheartened at the results obtained. The central agricultural board and its agents, however, urged the people to persevere, and I think that the industry may now be considered to be firmly established.

The principal exports have consisted of oranges, limes, and bananas. Experiments have been made with other products, but not with satisfactory results.

Oranges.—Fifty-two hundred crates of oranges were shipped in the 4 months ended December 31, 1890, which constituted the season for that year. Two large plantations were started during the year and numerous smaller ones. A notice written by me calling attention to the advantages of this industry was extensively circulated throughout the colony in English, Spanish, French, and Hindoostanee.

Limes.—In 1889 Trinidad limes were first placed in the New York market. These did fairly well, and in 1890 a considerable increase will be observed in the shipments. Several

abundoned lime plantations have been reclaimed, and the exports of this product will, no doubt, increase rapidly, as it has been discovered that they can compete favorably with Sicilian limes.

Bananas.—It will be seen that the shipments have considerably fallen off in 1890 as compared with 1889. The fruit spoils very quickly, and it has been found that small quantities can not receive the special care and attention which they require. Large areas are, however, being planted with bananas, but the excessive rainfall of 1890 has somewhat retarded operations. Dried bananas have been placed on the Canadian and American markets with the most encouraging results.

The following table shows the shipments of fruit in 1889 and 1890:

Fruit.		1889.	1890.
Oranges	number	278,638	878,554
Limes	do	176,150	1,033,405
Bananas	bunches	1,365	398
Dried	cwts	.....	8
Lemons	number	.....	650
Shaddocks	barrels	2	.....
Avocado pears	crates	1	.....
Golden apples	do	27	.....
Cucumbers	do	2	.....

Shipping.

The growth of the shipping business with the colony since 1880 will be seen from the following tables:

Table showing the number and tonnage of sailing vessels entering and clearing the port of Trinidad in 1880 and 1890.

Description.	British.		Foreign.		Total.	
	No.	Tons.	No.	Tons.	No.	Tons.
1880.						
Entered	922	80,362	1,540	66,903	2,462	147,265
Cleared	880	76,301	1,499	66,690	2,379	142,991
Total	1,802	156,663	3,039	133,593	4,841	290,256
1890.						
Entered	483	50,643	1,661	90,712	2,144	141,355
Cleared	482	51,578	1,653	91,420	2,135	142,998
Total	965	102,221	3,314	182,132	4,279	284,353

Table showing the number and tonnage of steamers entering and clearing the port of Trinidad in 1880 and 1890.

Description.	British.		Foreign.		Total.	
	No.	Tons.	No.	Tons.	No.	Tons.
1880.						
Entered	166	229,529	82	63,315	248	292,844
Cleared	168	232,971	81	61,540	249	294,511
Total	334	462,500	163	124,855	497	587,355
1890.						
Entered	276	307,272	197	191,596	473	498,868
Cleared	275	304,431	195	189,218	470	493,649
Total	551	611,703	392	380,814	943	992,517

Criminal statistics.

The following figures relate to the supreme court and magistrates' courts:

Description.	Number.	Description.	Number.
Supreme court.		*Magistrates' courts.*	
Judgments for the Crown	105	Discharged for want of prosecution by complainant or for want of evidence	4,116
Judgments for prisoners	34	Cases dismissed on merits	2,833
Persons found insane	1	Summarily convicted	10,082
Cases falling through for want of prosecution	53	Committed for trial in the superior courts	190
Total	193	Total	17,221

It will be seen from this table that the proportion of acquittals to convictions is very high, and that a still larger number of cases are dismissed for want of prosecution.

Attorney-General Gatty, in an able report on the criminal statistics of the colony, which I recently transmitted to Your Lordship, drew attention to this matter as being, in his opinion, a very serious one, and indicating that too many grave offenses go unpunished through the evidence having been stifled by compromise. Even in the graver cases of murder and manslaughter there is great difficulty in obtaining evidence, and Mr. Gatty considers that it will be only by strengthening the detective branch of the police force and the appointment of a treasury solicitor that the ends of justice will be better met.

With respect to the cases discharged, however, both the attorney-general and the senior police magistrate concur in thinking that they are for the most part of a trivial and frivolous nature.

It will be seen that the number of convictions has not kept pace with the increase in the population, which, considering the extent to which that increase is due to the influx of immigrants of an alien race, tends to show that the community in general is peaceable and law-abiding. This is also borne out by the jail returns, which show that the daily average of the number of prisoners is steadily diminishing.

The percentage of convictions to the estimated population of 1890 was 4.88, but a large proportion of the convictions (2,351) was for offenses under the "masters' and servants' acts," consisting chiefly of petty breaches of contract on the part of indentured immigrants. If these are eliminated, the percentage is reduced to 3.75.

There were two convictions for murder, both being cases of wife murder by immigrants.

Savings banks.

The following table shows the large increase that has taken place in the business of the savings banks in the last 10 years:

Year.	Number of depositors.	Amount of deposits on December 31.		
		£	s.	d.
1881	2,825	41,999	4	7½
1882	2,598	54,840	12	8½
1883	3,020	75,351	12	6
1884	3,361	85,555	18	1½
1885	3,490	87,511	13	9
1886	3,757	97,458	11	0
1887	4,409	109,515	9	1
1888	5,366	121,926	9	3½
1889	5,606	128,228	18	6
1890	6,769	144,554	14	10

In addition to the two chief offices in Port-of-Spain and San Fernando, branch banks under the management of the wardens were opened in 1886 in several of the country districts. There are now ten of these branch banks, and further facilities have lately been given to depositors by the introduction of the system of deposits by means of stamps.

A pleasing feature in the returns is the extent to which the banks are utilized by Indian immigrants. On the 31st of December last 2,758 Indian depositors had to their credit a sum of £69,043 9*s.* 9½*d.* Taking the population of the colony at 208,030 and the Indian section at 69,000, it will be seen that the average deposit of the immigrants per head is a little over £1, and that of the rest of the people only about 11*s.* The temporary run upon the banks, which I reported to Your Lordship early in the present year, was happily of but short duration, and the confidence of the people in the Government institution has been completely regained.

The account for 1890 shows a profit on the working of the banks as follows:

	£	s.	d.	£	s.	d.
Interest from investments				4,273	10	6
Interest on deposits	3,471	15	3			
Cost of establishment	715	12	6			
				4,187	7	9
Balance				86	2	9

The sum of £114,232 11*s.* 4*d.* is invested in English stock and colonial securities, and a further sum of £20,000 will be shortly invested.

It is to be sincerely hoped that the establishment of the so-called "People's Bank" will not interfere detrimentally with the working of the Government savings banks.

The pitch lake.

The sum of £26,744 was derived in revenue from the pitch lake in 1890. The receipts from this source for the last 10 years have been as follows:

Year.	Amount.	Year.	Amount.
1881	£855	1886	£4,10[illegible]
[illegible]	918	1887	5,11[illegible]
[illegible]	1,100	1888	17,18[illegible]

It was very gratifying to me, on December 8 last, to announce to the legislative council Your Lordship's decision in regard to the pitch lake. My views on the subject, which were embodied in a dispatch written in the early part of 1886, have never changed.

In accordance with my recommendations made in June, 1890, the extension of the concession of the pitch lake was approved for an additional year—not exceeding, in the whole, 21 years from February 1, 1909—for every £4,000 which shall be paid by the concessionaires before February 1, 1909, over and above the minimum sum of £140,000 payable in respect of the first term of 14 years, and the further sum of £28,000 payable in order to obtain the extension of 7 years from February 1, 1902. The conditions imposed were, amongst others, that on February 1, 1891, the concessionaires should make a special payment to the colony of £10,000 in addition to the regular payment of £10,000 due on that day under the term of the concession, both payments being taken as against shipments of the year commencing on that day.

Further, the Trinidad Asphalt Company agreed that, if by February 1, 1892, the concessionaires had not paid to the colonial government £100,000 in addition to the permanent deposit in London of £10,000, the company should on that day give to the Crown a mortgage on all the land it now possesses in Trinidad as collateral security for the balance then remaining of the £140,000, the payment of which to the colonial government the company has undertaken. As I stated in my dispatch No. 158 of June 7, I am at a loss to understand how anyone in the colony who has the real welfare of Trinidad at heart and who understands thoroughly the position of the Barber Asphalt Company in America and the relative position of the concessionaires and the government here, can hesitate to give in his adhesion to this extended concession. It is nevertheless a regrettable fact that there are still many persons who are doing their best, either on sentimental or purely personal grounds, to damage the interests of the concessionaires, and through them the interest of the government, by squatting on Crown lands and by shipping from them, or from private lands to which they have no title, inferior asphalt, which either injures the reputation of Trinidad asphalt in New York or has to be purchased by the Barber Asphalt Company to prevent it from being laid in the streets of the principal American cities. The government is doing its best to prevent this suicidal action, but as yet its efforts have been rendered futile by lack of assistance from the very quarter from which it might have expected to receive support. These difficulties will, I trust, with the advice of the law officers of the Crown at home and the assistance of Your Lordship's department, be soon overcome; and the colony will then realize, as vexatious opposition ceases and as the business increases, the splendid pecuniary advantages which have accrued to it from this concession. So confident am I of this that I am glad to have had my name connected in any way with this enterprise.

Your Lordship has approved of my suggestion that the large and increasing revenue from asphalt should not be included in the current receipts which are to be used for ordinary purposes, but that they should be set aside and invested for special purposes. This decision will necessitate a rearrangement and an increase of taxation, and the matter should be considered when it is seen what effect, if any, the McKinley tariff bill will have upon our finances.

With a yearly revenue, however, of £30,000 or over to provide for interest and sinking fund, it will be admitted that the colony could easily raise a million sterling, if necessary, on the most favorable terms, which would be ample to provide the additional roads, railways, water supply, and harbor improvements which are necessary. Until these are provided, it is difficult to see how it will be possible for this large island to make adequate progress and keep pace with the times.

TOBAGO.

Taxes and duties.

The land and house tax regulations passed by the financial board at the close of 1889 came into operation in 1890. The tax on land under this law is 5*d.* per acre; that on houses is 1*s.* 6*d.* per £1 of the annual rent or value.

Revenue and expenditures.

The revenue was £8,656 10*s.* 3*d.* and the expenditures £9,253 4*s.* 5*d.* The sums estimated for revenue and expenditure, respectively, were £9,720 and £9,352 18*s.* 9*d.* The principal falling off in the revenue was in the import duties, the quantity of dutiable goods imported during the year having been much below the average. There is, moreover, little doubt that the trade between Trinidad and Tobago has greatly increased, many of the small traders in Tobago purchasing their goods in Port-of-Spain. The effect of this, in spite of the arrangement made for the adjustment between the two other islands of duties paid on such goods, is that in many instances the Tobago revenue fails to profit by the duty paid in Trinidad, the goods being frequently conveyed as personal baggage, and thus not appearing in the transires.

Public debt.

The public debt is £5,000, this sum representing a loan from Trinidad at interest at the rate of 4 per cent. per annum.

Public works.

The following was the work accomplished during the year, the greater part of the loan from Trinidad being devoted to the purpose: Building of a customs and excise warehouse, hospital dispensary, bridges over Pembroke and Lambeau Rivers; repairs to court house and Government offices, Government house, colonial hospital, police barracks, jail; and repairs to, and conversion of, old dispensary into an almshouse. The repairs to most of the public buildings amounted almost to reconstruction, they having fallen into such a wretched state of decay.

The expenditure on the roads was £799 10*s.* 3½*d.*, which sum included the cost of supervision.

Population.

The estimated population at the close of the year was 20,727. There were 675 births registered (337 males and 338 females), the birth rate being 32.56 per 1,000. The illegitimate birth rate was 52.73 per cent., as against 57.8 per cent. in 1889.

The number of marriages registered was 97, being 10 more than in 1889.

There were 453 deaths, giving a death rate of 21.86 per 1,000.

Imports and exports.

The subjoined table shows the value of the imports and exports for the last 5 years:

Year.	Great Britain.		British colonies.		Foreign colonies.		Total.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
1886	£11,655	£8,552	£8,827	£9,792	£263	£5,822	£30,755	£38,436
1887	13,669	21,547	9,369	8,433	79	2,927	23,117	32,907
1888	15,752	27,809	11,485	7,451	1,610	3,640	28,847	38,900
1889	18,952	33,162	10,789	4,778	2,855	6,756	32,596	39,526
1890	16,881	1,956	5,108	5,516	1,414	11,899	23,403	19,372

It will be seen that there was a falling off in the year 1890 both in imports and exports. The cause in the case of the latter was the very small sugar crop, which was only 22,582 cwts. The average crop for the 5 previous years was 40,398 cwts.

Agriculture.

The following is an extract from the annual report of the committee of the Tobago Agricultural Society and deals fairly with the present situation:

"It may be said that the past year has been one of depression and of sustained anxiety. The relations between capital and labor, between employer and employed, have been severely

strained, and, at the moment when this report is written, the general feeling is one of uncertainty and alarm. In 1889 there had been a fair sugar crop, and, on the whole, a fairly remunerative market for it. The island's financial position, notwithstanding the disarrangements consequent on the annexation to Trinidad, was good. The old monopoly of land had disappeared and there had been a considerable influx of new blood and new capital, devoted, to a large extent, to the prosecution of new industries. In 1890, on the other hand, the cane crop was a poor one, and the prices obtained for sugar compared unfavorably with those of the preceding year. The crop season was, with the exception of 1 month, a wet one, and reaping was carried on under most disadvantageous circumstances. The one exceptional month was February, during which only 0.31 inch of rain fell at the fort (the meteorological station), and, unfortunately, the supreme court was in session during the whole of it. No work of any consequence was done on any of the estates, and valuable time was lost. * * *

"One important new industry was started in the island during the year, namely, the cultivation, on a large scale, of *Furcræa cubensis* for the production of the Tobago hemp fiber. The company which has been formed for this purpose has about 80 acres in cultivation, and the reports on the fiber already produced have been very favorable. It is to be hoped that the scheme will be a successful one."

Prisons.

There were 85 persons committed to prison, and the daily average number in prison was 14.

Criminal statistics.

The number of summary convictions during the year 1890 was 433. There was 1 conviction in the superior courts. In the preceding year the convictions in the inferior and superior courts were 302 and 4, respectively.

Hospitals.

The admissions to the hospital in 1890 numbered 133. The daily average number of patients in the hospital was 14. There were 18 deaths, and 66 patients were discharged cured.

Meteorological observations.

The meteorological station, which has now been in existence for about 2 years, is a regular second-class station, from which monthly reports are forwarded to the meteorological office. The mean temperature for the year was 78.5°. The rainfall was 77.36 inches. Rain fell on 195 days. January, with 10.28 inches, showed the heaviest monthly fall, the heaviest daily fall (2.94 inches) being on the 10th of that month.

General remarks.

The extract given from the report of the agricultural society clearly indicates that the year 1890 has not been a satisfactory one as regards the general prosperity of the island. The combined circumstances, however, which led to this were peculiar and unprecedented, and are not likely to recur to the same extent. The financial position at the end of the year was, in view of the above, much better than might have been expected, there being, apart from the Trinidad loan, a surplus of assets amounting to £351 18*s.* 8*d.*

THE TOBACCO INDUSTRY OF PERSIA.

REPORT BY CONSUL-GENERAL PRATT, OF TEHERAN.

Among Persian products tobacco holds a most prominent and important position, whether viewed from an industrial and commercial or a social and political standpoint. In its cultivation and preparation for market and transport to inland and seaport towns large numbers of people and animals are employed. It is one of Persia's principal commodities of export and supplies, to a certain extent, the bazaars of Turkey, Arabia, Egypt, the Caucasus, and central Asia, while from the taxes levied upon it in the shape of customs, transit dues, and plantation tithes the Government realizes a considerable revenue.

The place occupied by tobacco in the estimation of the people of Persia is altogether different from that assigned to it in Europe and America. Here it is removed from the sphere of doubtful luxuries and held as one of the chiefest articles of daily necessity. The Persian pipe is a social institution and exercises a greater influence than aught else in promoting happiness, friendship, and kindness in the national and family life. A bargain is rarely made, a contract signed, a visit paid, or any function performed, however solemn or affecting, without the intervention of the pipe.

An increase or reduction in the price of tobacco affects for good or evil almost every man, woman, and child in the Kingdom. As food, clothing, warmth, and light have, where the means are small, to be provided for in subordination to the constant demand for smoking, these first requisites of a healthy existence are often sadly curtailed.

A failure of the tobacco crop could be little less than a national calamity, and would be attended with consequences of a moral and sanitary nature out of all proportion to the loss from an industrial and commercial point of view. Any cause which has the effect of raising the price of tobacco (for a Persian will smoke) diminishes, to a very considerable degree, the power to purchase the actual necessaries of life.

In the cultivation of the land intended for the reception of the seed great care and pains are taken to render it as suitable as possible for the germination of the seed and the gradual growth of the plant. In some districts it is thought that land which has grown barley the previous year is the most suitable, but this probably depends greatly on the quantity of land available for cultivation and the condition of the water supply. Barley is preferred to wheat (peas and beans being rarely grown), because, whilst a plant of quicker growth, it is less exhausting to the soil. In some places, however, where land is unlimited in quantity and water abundant, but the means of fertilizing are out of reach, the old-fashioned method prevails of letting fields remain fallow for a year in order to recuperate.

A steady and ample water supply for irrigation is one of the most essential prerequisites to the successful cultivation of tobacco. Upon the quality

of water used for this purpose depends, also, to a certain extent, the delicate flavor and aroma of the leaf and its price in the market. If the water be distinctly brackish, the tobacco will be mild or sweet and its value as a commercial commodity greatly increased. If, on the contrary, the water be sweet and the soil unduly free from salacious elements, the tobacco will be rank to the taste and the odor unpleasant, and consequently of an inferior quality.

The fertilizer generally used is a mixture of ashes and pigeons' dung. In order to procure an abundant supply of the latter, numerous large mud towers, having walls extensively perforated with holes large enough for the bird to roost, lay its eggs, hatch, and bring up its young in, are built on the outskirts of towns and villages and on the tobacco plantations. As trees are scarce and enemies numerous, the birds flock in great numbers to the safety and security afforded by these places of refuge.

Plowing, if that operation as here pursued is deserving of the name, commences in February and is generally finished by about the middle of March. The land is then carefully harrowed, all stones and rubbish removed, and made as smooth and clean as possible, after which it is fertilized with a mixture of ashes and sheep's dung.

The seed may be sown from March 1 until April 5, depending upon latitude and altitude. This is done on prepared beds of soft mold sprinkled over with a layer of fine sand, care being taken to select for the purpose a shady place, so that the tender shoots shall not be exposed too early to the heat and glare of the sun. After sowing, the seeds are lightly covered with fine sand and regularly watered every 5 days until June 1, or 70 days after the feast of the Noo Rooz (the national festival), when the plants have attained sufficient strength and maturity to admit of being transplanted. For this the land is prepared in the same manner as for sowing, only that the fertilizer applied is more abundant and consists of sheep and fowl manure mixed. This process completed, the fields are divided into squares with slightly raised embankments and flooded. The soil having absorbed sufficient moisture, the young plants are set out along the tops of the ridges at a distance apart of, say, 1 foot each way. Irrigation is then resorted to every 3 days until the plants have assumed a vigorous growth, when they are gone over day by day, the smaller leaves plucked off so as to add strength to the larger ones, and the rows regularly weeded.

In some places it is customary, when the plant is about half grown, to make an incision in the stem and insert one or two spikes of dried clover into the internal cavity. From these it is supposed the sap extracts a certain amount of flavor, which becomes absorbed into all the structural parts, and adds a pleasant, spicy aroma to its smoking.

As soon as the plants arrive at maturity, which is usually about the end of August or the beginning of September, the harvest commences. If the leaves, after attaining a certain degree of perfection, are allowed to remain on the parent stem, they begin to change their color and are quickly spoiled.

In order, therefore, to avoid loss and give the plant time to develop the upper, or younger, leaves, the lower, or first formed, are gathered first. The petiole, or stalk stem, is carefully severed, and the leaves are laid on the ground and left in the field to get partially dried by the sun, until they have changed from a green to a golden hue. This is an anxious time for the planter, for, if the plantation should happen to lie in the path of a strong wind, the whole crop would be injured. As one cutting of leaves becomes sufficiently dry it is taken home and another is proceeded with in the same manner, until the whole is harvested and nothing remains in the field but such plants as are left for seed.

The process of drying, or curing, and preparing the article for the market has to be continued without interruption and with vigilant care if the delicate flavor and fragrance of the leaf are to be retained. The leaves are hung up and laid in every available place and turned and returned with the greatest regularity. While this operation is going on, such of the tobacco as has been grown with slight admixtures of alkalies is sprinkled with a weak brine, to give a pungency and flavor in the smoking and also to preserve it from becoming musty.

The drying, or curing, is stopped while the tobacco still contains a considerable quantity of moisture, which is considered the juicy, in opposition to the watery, part of the plant. In this state it is packed and pressed into sacks of coarse canvas, containing from 20 to 80 pounds each. An outer covering of the same material, to protect the tobacco as much as possible from the deteriorating effects of the air, is also added. To keep the finer qualities from depreciating or being spoiled by rain or water while in transit to seaports or inland towns, the whole is incased in coarsely tanned goat skins.

The quality of the tobacco depends upon the locality in which it is grown, the best being that produced in the neighborhood of Sheeraz and Tabas and the most inferior at Kashan. A large proportion of the Ispahan crop is shipped to Egypt and the Levant, as it is considered too "hot," or pungent, for the home consumption.

The Persian cultivator has not yet learned the advantages to be derived from an interchange of seed.

The price of tobacco varies according to its quality. The retail price to the consumer ranges from 10 krans ($1.50) to 1 kran (15 cents) per man; but the average, in view of the different kinds and the distances it has to be transported, would probably be about 5 krans (75 cents). The price at which it is bought wholesale from the grower, on the whole, would be about 2 krans per man of 6¾ pounds.

There are three different sorts of tobacco produced in Persia. The first, called "tombakoo," grown in Sheeraz, Ispahan, Kashan, Yezd, Tabas, Simnan, Nehavend, and Khorassan, is used only for the kalean, or nargile, and supplies the largest portion of the export trade. The second, called "tuttoon," grown in Koordistan, Kermanshah, Ooroomeeyah, and other

parts of Azerbaijan, is used solely for the chibouk, or long pipe, and is also exported in considerable quantities to Arabia, Asia Minor, and the Caucasus. The third, called "cigarette tobacco," grown, originally from Turkish seed, in the provinces of Ghilan and Mazanderan, on the southern littoral of the Caspian Sea, is used, as its name implies, for making cigarettes, and is, with the exception of what is consumed in Persia, exported entirely to Russia. There is also another variety, though it does not enter into commerce, grown in the vicinity of Sheeraz and known as "duckhter peech," *i. e.*, the maiden's plait or curl, a name derived either from the resemblance of its prepared rolls to a young girl's braided hair or because the hands of virgins are alone considered gentle enough to gather its delicate leaves.

Tobacco as an article of export, if statistics were available to prove it, would be found to occupy the third place in importance of the productions, both natural and manufactured, of the whole of the country. The order would be rice first, opium second, and tobacco third. According to the latest consular estimates, at the least 7,700,776 pounds of tobacco are exported annually from Persia, costing the merchant some £97,038. The home consumption is probably about 14,000,000 pounds, being purchased at a cost to the consumer of £264,705. From the above figures, which I have reason to believe are not very far from correct, it appears that the growth of tobacco in Persia amounts to 21,700,776 pounds.

From what I know of this industry in the United States and the Antilles, it is my earnest conviction that not only can the cultivation and manufacture of tobacco in Persia be immensely increased, but new varieties of the plant successfully introduced here and made to produce paying results.

E. SPENCER PRATT,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Teheran, July 15, 1891.

MANUFACTURING INDUSTRIES OF SPAIN.

REPORT BY CONSUL TURNER, OF CADIZ.

Spain does not figure among the leading manufacturing nations of the world, but nevertheless it can not be denied that during the last few years great advancement in the development of this branch of human industry has been made. Already her manufactures of chemical and pharmaceutical products are very important, and also those of paints, varnishes, and prepared cloth for artists made at Madrid, Leon, and Barcelona. Among others are the soaps of Seville, Cordova, Toledo, Madrid, Valladolid, and Saragossa; the candles of Madrid; the fertilizers of Huelva, Alicante, Haro, Barcelona, and Madrid; the matches of Tarragona, Aragon, Saragossa, Vitoria, Guipuzcoa, Madrid, and Leon; the sirups and essences of Seville, Granada, Barcelona, and Madrid; the sirups, acids, chlorides, sulphates, etc., of Madrid, Barcelona, Alicante, and Leon.

There is a national manufactory of small arms at Toledo, of firearms at Oviedo, and of cannon in Seville and Trubia, all of which are extensive.

Among the private industries those worthy of being cited are those for the manufacture of arms at Toledo, cutlery at Albacete and Saragossa, and the firearms of Eibar, Plasencia, and Oviedo. In Madrid, Barcelona, and Valencia they manufacture surgical and astronomical instruments, etc.

Musical instruments are made in Barcelona, Madrid, Valencia, Seville, Valladolid, Saragossa, and some other capital cities. The clarinets of Salamanca, the flutes of Huesca, Teruel, and Valencia, and the banjoes and guitars of Cadiz are justly famous. In Madrid and Barcelona they make very good pianos and organs.

There are in Spain many paper factories, the best being those of Barcelona and Tolosa; of ordinary paper at Caravaca; of pasteboard at Gerona, Burgos, and Loix; of cigarette paper at Alcoy, Cocentayna, Onteniente, Bocairent, Bilbao, Valladolid, Segovia, and Catalonia; of wall paper at Madrid and Barcelona.

The principal centers for making ordinary and fashionable furniture are Madrid, Barcelona, Cadiz, Vitoria, and Pontevedra.

In the ceramic industry Seville, Gijon, and Barcelona distinguish themselves in producing fine opaque china, porcelain ware, tiles, etc. There are important manufactures of crystal and glass ware in Segovia, Malaga, Corunna, Carthagena, Barcelona, Bilbao, Oviedo, Guadalajara, and Saragossa; of gold, silver, nickel, and white metal goods in Madrid, Barcelona, Cordova, Saragossa, and Salamanca; and the finish of the steel goods of Madrid, Toledo, and Eibar is without rival.

Most of the hemp of Spain is exported, but some of it is used in the manufacture of matting, among which that of Crevillente is well known. The canvas of this hemp is used in the manufacture of shoes and is an industry of importance in southern Spain.

The manufacture of cotton goods, which is almost confined to Catalonia, is constantly growing. The principal factories are located in Barcelona, Mataro, Esparraguera, Sans, Granollers de Valls, Villanueva y la Geltru. There are also others of less importance out of Catalonia, such as those of Valladolid, Saragossa, Cavada, Malaga, and Guipuzcoa. The manufacture of knit goods is confined to Barcelona, Mataro, Esparraguera, and Reus.

The manufacture of woolen goods has six principal centers—Catalonia, Alcoy, Bejar, Ezcaray, Antequera, and Palencia. In Caceres, Toledo, and a few other cities there are also factories of some importance.

The principal silk factories are in Valencia and its province and in Murcia, Seville, and Almagro.

Cork factories are found in the provinces of Caceres, Badajoz, and Gerona.

Hats are made in all parts of Spain. Foot gear of all kinds is manufactured extensively in Barcelona, Saragossa, and Madrid; gloves in Seville,

Cadiz, Saragossa, Barcelona, Madrid, Zamora, and Burgos; fans in Valencia, Barcelona, and Madrid; and belt and like leather goods in Madrid, Malaga, and Salamanca.

There are extensive dry docks for shipbuilding at Bilbao and Cadiz. Both are private enterprises, but each has been handsomely patronized by the Spanish Government. At present the Cadiz yards (Vea Murgura Hermanos) are engaged in building the Spanish cruiser *Carlos V* at a cost to the Government of 18,500,000 pesetas. There are in Spain several other quite important yards, some of which are under Government control.

According to the latest data, there are in Spain engaged in the woolen industry 1,170 cards, 662,000 spindles, 5,600 common looms, 1,200 Jacquard looms, 2,000 mechanical looms, 600 fulling mills, 520 *perchas*, 520 shearing machines, and 450 machines or apparatus to press, stretch, dress, and starch cloth. In the canvas and linen industry there are 340 cards, 28,000 spindles, 16,140 looms, 470 fulling mills, and 180 machines for pressing, stretching, and starching. In the cotton industry they employ 2,450 cards, 692,000 spindles, 13,750 looms, 35 *perchas*, 85 shearing machines, and 125 machines for pressing, stretching, and starching. In the silk industry there are employed 2,700 boilers, 30,000 spindles, and 2,120 looms. In various other textile industries there are in use 4,080 looms, 9 linen-thread factories, 146 factories of coarse linen fabrics, 8 looms, and 15 factories of *blondas* and tulles.

There are 116 bleaching establishments, 436 coloring mills, 98 machines, and 280 tables for stamping, and 136 places for bleaching and stamping. There are 1,650 tanning factories and 30 for currying leather. There is 1 factory for making asphalt and 1 cooperage where the work is done by machinery. There are 31 factories of burnished or painted tiles, 10 of crystal or white glass, 12 of fancy flags for flooring, walls, etc., 130 of ordinary tiles, 8 of ceramic objects, 2 of porcelain, 2,700 brickyards, 1,312 factories of common crockery or earthenware, 21 of green glass, and 1,209 lime kilns. There are 995 chocolate factories, 1,550 of soap, 27 of pasteboard, 73 of wrapping paper, 32 of continuous paper, 186 of brown paper, 45 of writing paper, 68 of cigarette paper, 4 of paper paste, and 35 of stamped or colored paper for walls and other uses.

In chemical products there are 7 manufactories of sulphuric acid, 3 of copperas, 19 of white lead, 4 of alum, 3 of aqua fortis, 2 of spirits of salt, 1 of salts, 14 of cream of tartar, 4 of animal carbon, 1 of red lead, 7 of licorice extract, 3 of verdigris, 5 of phosphorus, 6 of spirits of turpentine, 100 of matches, 4 of artificial salt wort, 2 of lac, 8 of printing ink, 1 of saltpeter, 30 of various products, 11 of perfume and essences, 10 of artificial fertilizers, 5 of coke, and 125 of powder. There are 400 places for the manufacture of soup pastes, 370 for salting meat and fish, 31 for preserving foods, 19 sugar mills, 202 beer and soda water factories, 205 hat factories, 63 candle factories, 156 of starch and fecula, 71 of carriages; 41 of pianos, organs, and other musical instruments; 562 for the manufacture of cork goods.

The number of manufacturing taxpayers is 65,046, and they pay to the Government an annual industrial tax of more than 3,615,809 pesetas.

Judging by the amount paid to the Government for the right to engage in manufacturing enterprises, the most important provinces are Madrid, Barcelona, Valencia, Seville, Saragossa, Malaga, Cadiz, Gerona, Granada, and Alicante.

In reading the foregoing it should be borne in mind that nearly all of these industries are small and primitive. In only a few are modern methods followed or modern machinery used, but, notwithstanding this, there is enough to indicate what might be accomplished under fostering influences and American machinery.

R. W. TURNER,
Consul.

UNITED STATES CONSULATE,
Cadiz, August 14, 1891.

COTTON GOODS TRADE OF BARCELONA.

REPORT BY CONSUL BOWEN.

In order to give an idea of how important the cotton trade is in Barcelona, I have secured the following information regarding the exportations of cotton textures during the month of June, 1891:

Table showing the exports of cotton textures from Barcelona to foreign countries in June, 1891.

Whither exported.	White textures.	Colored textures.	Stitched textures.
In Spanish ships.	*Kilos.*	*Kilos.*	*Kilos.*
Porto Rico	16,290	39,442	6,303
Manila	21,805	16,492	60,540
Morocco	179	472	52
Fernando Po	152	1,769	.....
Colombia	5	170	977
Venezuela	10	247	58[illegible]
Argentine Republic	27	998	.....
Cuba	219,478	25,077	8,893
Canary Islands	.....	276	751
Mexico	.....	740	.....
Honduras	.....	200	234
France	.....	412	1,534
England	.....	.....	233
Italy	.....	.....	688
Singapore	.....	.....	1,497
In foreign ships.			
France	94	.....	184
Argentine Republic	360	11	863
Venezuela	332	140	1,853
Colombia	9	767	88
Italy	.....	.....	64
Total	258,743	87,213	85,440

The total quantity of cotton textures exported to foreign countries was 431,396 kilogrammes. The total quantity of raw cotton imported into Barcelona during the year 1890 was 66,318,595 kilogrammes, of which quantity 35,069,271 kilogrammes came from the United States direct.

HERBERT W. BOWEN,
Consul.

UNITED STATES CONSULATE,
Barcelona, July, 1891.

EMIGRATION FROM NORWAY.

REPORT BY CONSUL GADE, OF CHRISTIANIA.

I have the honor to submit herewith a detailed statement showing the emigration from Norway during the year ended December 31, 1890, compared with that of the 4 preceding years:

Table showing the total number of Norwegian emigrants.

From—	Men.	Women.	Total.
Rural districts	4,151	2,947	7,098
Cities	1,727	2,166	3,893
Total	5,878	5,133	10,991
1889	7,076	5,566	12,642
1888	13,138	8,314	21,452
1887	12,714	8,027	20,741
1886	8,611	6,547	15,158

Table showing the number of persons emigrating at different ages.

From—	15 years.	15 to 30 years.	30 to 65 years.	65 years and over.	Age not given.
Rural districts	1,175	4,556	1,307	58	2
Cities	911	2,028	928	24	2
Total	2,086	6,584	2,235	82	4
1889	2,238	7,627	2,670	98	9
1888	3,691	12,855	4,766	124	16
1887	3,633	12,320	4,620	159	9
1886	3,107	8,462	3,434	146	9

Table showing the emigration from Norway in 1890, as compared with the 4 previous years.

Nationality.	1890.	1889.	1888.	1887.	1886.
Norwegians	10,991	12,642	21,452	20,741	15,158
Swedes	2,182	2,799	4,517	4,845	2,103
Others	195	115	191	136	63
Total	13,368	15,556	26,160	25,722	17,324

Table showing the number of emigrants sailing from the different Norwegian ports in 1890, as compared with the 4 previous years.

Ports.	1890.	1889.	1888.	1887.	1886.
Christiania	6,735	7,737	13,259	14,129	9,416
Christiansand	1,391	1,254	2,765	2,933	1,701
Stavanger	1,340	1,144	1,801	2,147	1,656
Bergen	1,009	1,302	1,633	1,725	1,816
Trondhjem	2,219	3,297	5,196	3,375	2,083
Other ports	674	822	1,506	1,413	652
Total	13,368	15,556	26,160	25,722	17,324

GERHARD GADE,
Consul.

UNITED STATES CONSULATE,
Christiania, June 5, 1891.

SPANISH-CUBAN TRADE.

REPORT BY CONSUL BOWEN, OF BARCELONA.

The principal productions and their value in round numbers sent by Spain annually to Cuba are as follows:

Articles.	Quantity.	Value.
	Kilos.	*Pesetas.**
Textiles†	2,700,000	14,500,000
Boots and shoes †	860,000	13,700,000
Wines	42,000,000	12,500,000
Flour †	21,000,000	6,800,000
Oil (common) †	4,800,000	4,300,000
Preserves †	2,000,000	3,000,000
Soap †	4,700,000	2,800,000
Pipes	5,600,000	2,300,000
Inland material	200,000	1,000,000
Garlic and onions	2,700,000	1,200,000
Chick-peas and vegetables	3,000,000	1,500,000
Wax	900,000	1,500,000
Bags, empty	1,600,000	2,600,000
Thread lace	4,200	900,000
Paper, books, etc. †	1,600,000	2,600,000
Preserved skins †	140,000	900,000
Butter †	250,000	700,000
Olives	1,000,000	800,000
Saffron	3,000	300,000
Chocolate	200,000	600,000
Soup paste †	800,000	450,000
Fans, umbrellas, etc.	.....	1,000,000
Glass, bricks, earthenware	2,500,000	900,000
Metals	700,000	700,000

*1 peseta=19.3 cents.

† The recent treaty between Spain and the United States is especially prejudicial to the exportation from Spain to Cuba of these productions.

The principal articles exported by Cuba to Spain are as follows:

Articles.		Quantity.	Value.
			Pesetas.
Sugar	tons	60,000	24,000,000
Cocoa	kilogrammes	100,000	200,000
Coffee	do	162,000	330,000
Brandy	do	2,500,000	880,000
Wood	do	1,300,000	400,000
Sweets	do	100,000	300,000
Tobacco	do	2,200,000	6,300,000

During the year 1889 the value of the exportations from Spain to Cuba was 82,718,564 pesetas and the importations from Cuba 84,767,153 pesetas.

HERBERT W BOWEN,
Consul.

UNITED STATES CONSULATE,
Barcelona, September 1, 1891.

DAIRY EXPERIMENTS IN DENMARK.

REPORT BY CONSUL RYDER, OF COPENHAGEN.

Researches have continually been carried on in this country ever since the year 1875 in relation to the fattiness (butter contents) of cows' milk, but it was only when these were taken in hand by the late Professor Fjord, who so conspicuously aided by his experiments and researches in bringing Danish butter to its present high repute, that it can be said that practical and trustworthy results have been obtained therefrom. It would now appear that it is by no means sufficient to know the milk yield of the cow when the fattiness of the milk is not at the same time ascertained, this being of such variable nature that there can at times be found a difference of nearly 100 per cent. Examples have been afforded where two cows have received an identical course of feeding, yet one yielded 40.5 pounds of milk giving 2 pounds of butter daily, while the other with a yield of 41 pounds of milk only gave a trifle over 1 pound of butter. On a dairy farm in Jutland the yearly average consumption of milk to 1 pound of butter from individual cows with identical feeding has been found to vary from 21.3 to 41½ pounds of milk. Here the breeding stock has been largely selected from cows known for their yield of fat milk, one family more especially being noted for its yield of exceptionally fat milk. The highest yearly butter yield of a cow, which has so far been attained, is 444½ pounds, but it is maintained that by making a select choice of bulls, as well as of cows with fat milk hereditary qualities, a considerably larger butter production may be obtained.

All the experiments have fully proved that the cow possesses the special property of extracting a greater or less amount of fat from its food, and that this faculty is hereditary; and, contrary to what has hitherto been

the general opinion, it is now shown by these experiments that the milk's fattiness can not be affected to any essential extent through the course of food. In the different experimental trials, when all other conditions have been identical, the food has been of different composition—namely, fifty pounds of turnips, 12 pounds of hay, and 6 pounds of vetches; 12 pounds of hay and 10 pounds of vetches, without any turnips; 50 pounds of turnips, 12 pounds of hay, 2 pounds of oil cakes, and 4 pounds of vetches; 62 pounds of turnips, 12 pounds of hay, 4½ pounds of oil cakes, and 1½ pounds of vetches; 62 pounds of turnips, 12 pounds of hay, 1½ pounds of oil cakes, and 4½ pounds of vetches; 37 pounds of turnips, 12 pounds of hay, 6 pounds of oil cakes, and 2 pounds of vetches; lastly, 37 pounds of turnips, 12 pounds of hay, 6 pounds of vetches, and 2 pounds of oil cakes—without having affected to any degree worth mentioning each individual cow's butter yield, which year after year has shown a remarkable feature of unchangeableness. Heifers would appear to give the fattest milk, while, on the other hand, the fatty amount is found to decline as the cow gets older. The milk is almost always found to be fattest immediately after calving time, decreasing slowly in its fatty amount during the next 3 to 4 months, when it again increases. Those cows which lose flesh by milking always give fat milk immediately after calving, whereas, on the other hand, the fleshy cows are rarely found to give fat milk.

These are the results which have so far been attained, and it is now to be hoped that stock-breeders, with the aid of the controlling centrifuge, will be careful in their selection of cows for breeding to get those giving the fattest milk. The trouble will be as nothing in comparison to the advantages that will be derived by pursuing such a course. In this manner it will be possible to produce a butter-producing breed by which the income of the dairies will be very considerably increased without entailing extra expenses.

HENRY B. RYDER,
Consul.

UNITED STATES CONSULATE,
Copenhagen, July 16, 1891.

THE ELECTRIC LIGHT IN SOUTH AFRICA.

REPORT BY CONSULAR AGENT HOLLIS, OF DURBAN (PORT NATAL).

Although Durban* is the youngest city of importance in the British colonies of South Africa, it is one of the most important of them all, containing about 40,000 inhabitants and supporting three banks, a hospital, numerous churches, schools, and educational institutions. The municipality contains about thirty-five hundred buildings, has 30 miles of hardened roads, and supports a street-car line having a total length of track of about 8 miles.

* Durban, or Port Natal, is 3 miles by rail from its harbor on Port Natal Bay.

At present the city is wholly dependent upon oil as an illuminant, though it has been definitely decided by the town council to light the town by electricity. They have not yet determined upon the system or systems to be used, but are moving actively in the matter; and, when all preliminaries are settled, they will call for tenders for the construction of the plant. There being no gas plant in town, electricity will surely find its way into commercial houses and dwellings as the principal illuminant, and will not be confined to the streets and public buildings.

The town council also contemplates the construction of about 3 or 4 miles of tramway along a road level in most parts and with easy grades and long curves. There seems no reason why this tramway can not utilize the electric current as its motive power.

First-class coal of colonial production can be readily obtained in any quantity for about $5 per ton.

Although the electric light and tramway schemes are as yet only in the committee stage, they are nevertheless definitely decided upon, and this report, incomplete as it is now, will be supplemented by a fuller one when the town council formally announce their policy and their conditions in reference to tenders.

W. STANLEY HOLLIS,
Consular Agent.

UNITED STATES CONSULAR AGENCY,
Durban (Port Natal), June 24, 1891.

THE COAL AND COAL MINES OF NATAL.

REPORT BY CONSULAR AGENT HOLLIS, OF DURBAN (PORT NATAL).

In a previous report upon Durban, or Port Natal, as it is sometimes called, I made mention of the facilities of the port for the safe anchorage of vessels and of the appliances for quick loading and discharging of cargo. I have now to deal with the facilities which Durban offers as a coaling port, and will state here that, in my opinion, Durban is destined to become one of the most important of the coaling ports in the southern hemisphere.

In the interior of the colony of Natal large beds of coal have been found, and a number of mines have already been opened, the principal one of which is that of the Dundee (Natal) Coal Company, limited (capital £100,000), opened less than 2 years ago, and which is now working at a depth of 58 feet, having three shafts and 5½ miles of tramway in the underground workings. This mine is 240 miles from Durban and 8 miles from a main line of the Natal Government railways. A line from the mine to the railway has been constructed by the coal company at a cost of $270,000. The coal lies in a thick, horizontal layer, and is easily worked. Under it are other layers, which have not been touched save by the drill. The mine gives employment to 25 white men, 200 natives (Zulus and Kaffirs), and 40 Indians (coolies). Its output for the year ending December 31, 1890, was 40,000 tons.

Before the Natal mines were opened the colony depended entirely upon England for its coal supply, large quantities of Welsh coal being imported yearly. The importation of coal has entirely ceased, and exportation is now going on. The export of coal, however, has been hampered by the absence of suitable vessels for colliers, the company having to take the best they could find of the ordinary vessels offered, but which in many cases were not suitable. They have recently contracted for two steam colliers, one of 300 tons and 8 feet draft, the other of 800 tons and 10 feet draft, the former of which is now due at this port, and the other is due in about a month. Specifications are now being prepared for a third. It has been fully demonstrated that the imported coal can not compete with the Natal coal in any part of southeastern Africa, and, as the Dundee company alone can supply, regularly, 500 tons per day, and, by putting on night gangs, increase the above amount to 1,000 tons, it would seem that there is a fair opening on this coast for a few coal schooners of light draft, some not over 10 feet, the latter to be able to sail in and out of the Koussie, as there are no tugs at present at that port. Better facilities will be had at the Koussie before long, as it is destined to be the port of entry, as far as coal is concerned, for a large part of the eastern province of the Cape Colony.

Dundee (Natal) coal is now being used by the Natal Government railways, who have contracted for a supply of 40,000 tons for the present year; also by the Natal harbor board, the colonial engineer's department, the Maritzburg and Durban municipal corporations, and by the following steamship lines: Castle line of mail packets, Union line of mail packets, the Clan line, the Rennie line, and the King line of London and Calcutta boats; and in every case it is giving perfect satisfaction. All the above-mentioned corporations and steamship lines formerly coaled at this port with imported Welsh coal; but, as the latter used to cost from $12 to $14 per ton, they speedily discontinued its use when the Natal coal became available.

The Dundee (Natal) coal is now quoted, per long ton, as follows:

Screened and in trucks at the the pit's mouth	$2.43
Delivered in trucks in Durban	4.86
Delivered to sailing vessels as cargo	5.22
Delivered in steamers' bunkers, alongside wharf	5.34
Delivered in steamers' bunkers, in outer anchorage	6.68

These are the regular net prices. There is no speculation in coal. All consumers, whether they be steamships or blacksmiths, are supplied direct by the company.

This coal is all of first-class quality, as the following copies of letters and reports from the officers of various steamships, from the agents of the same, and from railway officials, mine managers, etc., will show. The report from the De Beer's Consolidated Mines (limited) is particularly valuable. I have been through their mines, and can testify that they are worked on strict business principles.

REPORT FROM THE DE BEER'S CONSOLIDATED MINES (LIMITED).*

KIMBERLEY, *February 25, 1891.*

DEAR SIR: I am in receipt of your letter of January 28, as well as various telegrams relative to coal, and I now confirm my telegram of January 31 that I was not prepared to close for the 200 tons, owing to the cost of your coal being higher than the English coal. At the time this wire was sent you our engineer, Mr. Seymour, had only made one test of your coal of 12 hours' duration, which showed a difference of 12 per cent. between your coal and Welsh steam coal. Subsequently, however, he made a further and longer test, which gave even more satisfactory results. I inclose a copy of his report upon the two tests, from which you will see that he brings the result out a little over 9 per cent., and on this basis your coal will compete upon almost equal terms with Welsh coal. I inclose a pro forma account showing the cost of 1 ton of your coal invoiced on wharf at Natal at £1; to be landed in Kimberley, £8 18*s.* 4*d.* per long ton, equal to £7 19*s.* 2*d.* per short ton; adding 9 per cent. to this, brings the price up to £8 13*s.* 6*d.*, or about the same as Welsh coal. You will notice that Mr. Seymour's report is dated February 12; but, owing to the want of fuller information, which was not included in the report when it was first sent up to the office, and to the absence from Kimberley of Mr. Gardner Williams, the company's general manager, I was unable to write you fully on the subject until now.

Seeing that under this test your coal shows such satisfactory results, I have determined to give it another trial, and with this object I yesterday wired to our agent in Port Elizabeth, Mr. Pickering, to ascertain whether the 200 tons you were sending round were still in Port Elizabeth, and that if so, and he could deliver them on trucks in Port Elizabeth at 21*s.* 6*d.* per ton, I would take them. I have just received his reply that he has bought, subject to our confirmation, 200 tons, leaving your port to-morrow, at the price named, and I have just wired to him confirming this purchase. Should this coal prove equal to the first lot sent, which I have no doubt it will, we may be able to do some further business with you. In the meantime I have given your agents in Port Elizabeth credit for the 25 tons at the rate of £7 17*s.* 6*d.* per ton.

I remain, etc.,

W. H. CRAVEN,
Secretary.

J. H. WOODS, Esq., *Durban, Natal.*

KIMBERLEY, *February 24, 1891.*

Statement showing the cost laid down in Kimberley of a ton of Natal coal of 2,240 pounds.

	£	s.	d.	£	s.	d.
Cost at Natal	1	0	0			
Bags	0	6	0			
Shipping	0	2	6			
Freight and insurance	0	4	6			
				1	13	0
Landing at Port Elizabeth	0	5	0			
Duty and wharfage	0	2	4			
Agency and sundry expenses	0	1	3			
				0	8	7
Cost landed at Port Elizabeth				2	1	7
Railage from Port Elizabeth to Kimberley on long ton				6	16	9
Cost laid down at Kimberley				8	18	4

This is equal to £7 19*s.* 2*d.* per ton of 2,000 pounds.

* This is the only report it is considered necessary to publish.

KIMBERLEY, *February 12, 1891.*

To GARDNER F. WILLIAMS, Esq.,

General Manager De Beer's Consolidated Mines (limited):

The following report contains the results of two tests on about 16 tons of Dundee coal from Natal, South Africa.

The tests were made in the manner prescribed by the Society of Mechanical Engineers. The first was of 12 hours' duration on four of the battery of Bechy boilers and the second of 36 hours.

Description.	First test.	Second test.
Duration of test.....hours...	12	36
Pressure on steam gauge.....pounds...	99.68	102.15
Absolute pressure.....do.....	112.4	114.85
Weight of atmosphere per square inch.....do.....	12.72	12.7
Total coal fired plus wood equivalent.....do.....	3,120	22,506
Cinders remaining.....do.....	92	220
Clinkers remaining.....do.....	125	1,511
Ashes remaining.....do.....	222	1,452
Refuse in coal.....do.....	347	2,963
Percentage of moisture in coal.....	0.01	0.01
Total incombustible in coal.....pounds...	378	3,188
Total combustible in coal.....do.....	2,942	19,318
Coal actually consumed.....do.....	3,028	22,286
Coal consumed per hour per square foot of grate.....do.....	10.96	6.73
Water evaporated.....do.....	24,045	188,632
Water evaporated per pound of coal.....do.....	7.94	8.464
Water evaporated per pound of coal from and at 212°.....do.....	9.173	9.867
Water evaporated per pound of coal combustible.....do.....	10.48	11.49
T. U. in each pound of coal (1 pound combustible, 14,500 T. U.).....	12,687.5	12,452.6
T. U. in each pound of coal feed water.....	100.88	90.7
T. U. in each pound of coal steam.....	1,216.46	1,216.94
T. U. to be applied to each pound of feed.....	1,115.57	1,126.23
T. U. received by feed per pound of coal.....	8,858.6	9,532.5
T. U. received by feed per pound of combustible.....	10,122	11,100
Percentage of evaporative value of this coal when compared with tests on Nixon's navigation coal on the same boilers and of 24 hours' duration.....	0.86	0.92

The value of this coal, when Nixon's navigation costs £8 12*s.* 6*d.* per ton of 2,000 pounds, was £7 8*s.* 4*d.* for first test and £7 18*s.* 8*d.* for second test. The value of 1.514 tons, at £7 8*s.* 4*d.* per ton, equals £11 4*s.* 7*d.*; the value of 11.143 tons, at £7 18*s.* 8*d.* per ton, equals £88 8*s.* 5*d.*; total, £99 13*s.*; average value per ton, £7 17*s.* 6*d.*

It is always customary in averaging results of two boiler tests to add the two results and take half the sum, which would make the result £7 13*s.* 6*d.* The reason of the results differing 6 per cent. is due to two causes:

(1) The first test was conducted on one boiler, which steamed for the pumping engine and the electric light and both drawing steam regularly. The intervals required at the commencement and at the end of the test for getting up steam and burning the fire to a finish was a much greater percentage of the total time consumed on the test (12 hours) than on the second test of 36 hours.

(2) On the second test the steam was used as on the first, but with the addition of the large winding engines, which work very irregularly and caused the boilers to prime, which affects the apparent evaporation to a great extent, as a pound of water in the boiler only contains about one-quarter the amount of heat that a pound of steam contains.

It is probable, from these results, that an average of the two will be more nearly correct than to take either alone.

Respectfully,

LOUIS J. SEYMOUR.

I have inclosed the foregoing reports, as I consider that they all contain information of value, first, to the Navy Department and steamship-owners generally, and, second, to owners of schooners of light draft suitable for the coal-carrying trade, as thousands of tons of coal are imported into Cape Colony yearly. The island of Mauritius, about 14 days' sail distant from Durban, takes 200,000 tons of coal per annum. At present Natal has but a small share in this trade, but it is bound to increase.

In the absence, at present, of suitable vessels for the coal trade in these waters, there seems to be an opening for a few shipowners who are willing to come to this coast and take their chances. I am confident that those who come will find here a profitable field.

W. STANLEY HOLLIS,
Consular Agent.

UNITED STATES CONSULAR AGENCY,
Durban (Port Natal), June 24, 1891.

THE ELECTRIC LIGHT IN MALTA.

REPORT BY CONSUL WORTHINGTON.

The probable adoption of a system of electric lighting in this island has given rise to so excellent and intelligent a report on the subject that I inclose herewith a copy, just printed in the official gazette, of said report, prepared by Mr. W. H. Preece, consulting electrical engineer of the London general post-office. The report is definite, concise, and instructive, and includes a statement of the comparative cost of lighting the principal towns of Malta by gas and electricity.

No contract has yet been given out for the lighting of Malta by electricity, and it has occurred to me that possibly some of our American manufacturers of electrical plants might see an opening here for their enterprise.

JOHN WORTHINGTON,
Consul.

UNITED STATES CONSULATE,
Malta, October 15, 1891.

THE INTRODUCTION OF THE ELECTRIC LIGHT INTO MALTA.

[Inclosure in Consul Worthington's report.]

Malta is at present lighted by gas, and, with the exception of the offices of the Eastern Telegraph Company, there is not a single electric-light plant in the island. The gas works were established in 1857, one in Valetta and another in Calcara, on each side of the grand harbor.

The gas sold in 1884 amounted to:

	Cubic feet.
Private consumers	13,196,000
Government	27,832,000
Total	41,028,000

The gas made during the same time was 46,556,000 cubic feet. Thus the loss due to leakage and used in works was 5,528,000 cubic feet, which was a waste equivalent to 12½ per cent. There were 4,484 tons of coal carbonized.

The price paid by the consumer per 1,000 cubic feet was, in 1884, 6*s*., and the total amount paid by the Government departments about £9,000 for the year.

Taking 41,000,000 cubic feet as the gas used and dividing this figure by 5, which is the ordinary average consumption in cubic feet per hour per burner, we have 8,200,000 lamp hours per annum, or 22,500 lamp hours per day. This figure, divided by 2, the average daily hours of lighting, gives 11,250 as approximately the number of lamps in use, and which are probably divided as follows: Private, 3,750 lamps; Government, 7,500 lamps.

The average price paid per lamp in use per annum is 24*s*. The number of lamps fixed is probably in excess of 11,250, and therefore the price per lamp fixed would be less.

In 1887 the price per 1,000 cubic feet was reduced to 5*s*. and in 1888 to 4*s*. 6*d*., the present price; but the total prices paid by the Government do not appear to have changed materially, which may be due to an increased number of lamps, to an increasing use of gas, or to increased pressure in the mains. The Maltese government is now paying £4,600 per annum for lighting the streets in the four cities, the price being £4 3*s*. 3*d*. per lamp per annum, the lamps not being lighted on the two nights preceding and following full moon.

The cost of the production of gas in Malta was, in 1884, £1 13*s*. 7½*d*. per ton of coal carbonized, which makes the price to the manufacturer per 1,000 cubic feet 3*s*. 4*d*. This quantity of gas burnt continuously in an ordinary bat's-wing burner of 10 candle-power will give 200 lamp hours of light. The same quantity of light produced by electricity would require 6.6 bots. The bot is the board of trade unit of 1,000 watt hours, upon which charges are regulated in England.

The cost of the manufacture of a bot of electricity in London varies from 3*d*. to 4*d*. I know no reason why it should cost more in Malta. The price of coal is a little higher, but labor is cheaper. In Rome the cost is 4*d*., but coke is burnt instead of coal. In Milan the cost is also 4*d*., but coal is very dear, averaging about 30*s*. a ton. I take the cost per bot in Malta at the average price of 3½*d*., and, as one bot is equal to 1,000 watt hours, and one 10-candle lamp power consumes 33 watts, one bot would supply 30 lamp hours, and, therefore, 200 lamp hours would cost 23.1*d*. Thus the price of electricity to the manufacturer in Malta would be much less than that of gas.

It is different in England. The manufacture of gas there is cheaper than that of electricity, and this is due to the fact that there is a market for the sale of residuum in England which does not exist in Malta. The Gaslight and Coke Company (owing to their enormous consumption) pay only 12*s*. 6*d*. per ton for coal, and the residuum realizes 7*s*. 6*d*. per ton. Hence coal costs the gas company only 5*s*. per ton, while the electric light companies, needing a somewhat better quality of coal, have to pay, on an average, 17*s*. per ton for it. On the other hand, the electric-light companies use only half the quantity of coal for the same amount of light as that produced by a ton, and therefore the price of coal to them to produce the equivalent electrical energy is 8*s*. 6*d*. The relative price of coal is shown by the following table:

Description.	Electricity.	Gas.
London	8.5	5
Malta	8.5	11

The daily average time of lighting being 2 hours in Malta, the number of hours of lighting per lamp per annum is 730. Hence the electrical energy required per lamp per annum will cost only 7*s*. 6*d*. The lamp itself will cost 3*s*. 6*d*., and, if we give it a year's life, the cost will be raised to 11*s*. To this must be added the cost of distribution, which in Malta should not exceed 4*s*. per lamp, making the cost per lamp per annum to be 15*s*., as against 24*s*. now paid for gas.

The amounts paid by the different departments in Malta for gas consumed during the past 12 months have been as follows:

War department	£2,891
Admiralty	731
Maltese government	5,346
Total	8,968

Electricity can be manufactured and delivered to supply the same amount of light for £5,650, showing that a saving can be effected of £3,318 by undertaking the manufacture and supply of electricity.

I have taken the average daily hours of lighting in Malta at 2. This is due to the low latitude of the place (35°) and to the early habits of the people. The average of different places, as gathered from actual experience, is as follows:

	Hours.
Berlin	3.92
London	3.5
Milan	2.9
New York	2.4
Gibraltar (by estimate)	2

The hours of public lighting in London number 4,200 per annum and in Malta 3,450 per annum.

There can be no question as to the practicability of introducing electric lighting into Malta. A central station can be established in a very convenient position which can command the whole district. This site is so convenient from the technical and commercial points of view that I sincerely hope His Excellency the governor will be able to approve of the position. The distribution of electricity by mains, submains, and conductors is rendered extremely simple, secure, and effective through the existence of a very complete system of subways and galleries in connection with the sewerage system of the place, which run parallel to every street, are roomy, and offer every possible convenience for the safe fixture of the mains. In fact, I know of no place, unless it be Paris, better adapted for the purpose. The substations should be dry chambers hewn out of the solid rock below ground. There will thus be absolute security to person everywhere. I propose to introduce the high-pressure, alternate-current system, and to provide a plant for 10,000 lamps of 10 candle-power each. I estimate the cost of doing this at £40,000. This includes the extension of the mains to Hamrun and Sliema, two populous suburbs, which have their streets very badly lighted at present and where some improvement is very much needed.

The public lighting is indeed at present very unsatisfactory everywhere except in the Strada Reale. The side and cross streets in Valetta are now not only very poorly illuminated, but the lamps themselves are scattered about in strange, irregular, and inartistic style. I propose to improve all this by suspending 32 candle-power glowlamps from 15 to 20 feet above the center of the roadway in symmetrical and regular lines. This system has been adopted with very great success in Milan and Florence. The bright-colored stone of the buildings will reflect this light so that the streets would become well and uniformly lighted with nearly three times the light that is given now. St. George's Square should be lighted by at least six arc lamps, and there may be two or three other open spaces where arc lamps can be conveniently used. St. George's Square can be made the most brilliantly lighted space in Europe, and more light would be much appreciated in this much-frequented square, where military music so often delights the public in the cool evenings.

The district to be served by the electric light is a very densely populated one. The present population is roughly estimated at 66,510, divided as follows:

Cities.	Number.	Cities.	Number.
Valetta	25,000	Pietà	850
Floriana	7,000	Misida	1,760
Hamrun	3,250	Sliema	3,700
Senglea	7,500	Total	66,510
Vittoriosa	6,200		
Burmola	11,250		

This large population, excluding Government buildings, is very badly served with gas. In 1884 there were not 4,000 lamps; there are not very many more now. In England, with such a population, there would be more than ten times as many lamps.

The average consumption of gas in nine large towns in England is 3,000 cubic feet per head per annum, and the average price 3*s.* per 1,000 cubic feet. In Malta the average consumption per head is not 200 cubic feet, and the price 4*s.* 6*d.* per 1,000 cubic feet. There is one burner fixed per head in English towns, and therefore in Malta there ought to be 66,510 lamps if the same conditions existed; there are probably not 5,000 lamps fixed. This is due to the high prices that have until recently been exacted; 4*s.* 6*d.* per 1,000 cubic feet, the present price, is fair, but 7*s.* was exorbitant and prohibitive. The gas has been impure and its supply indifferent. The fear of competition has to a great extent remedied this. The heat of gas in an already overheated place is most objectionable, and the poorer residents in small, confined tenements can not afford the cost of equipping their places with pipes and fittings. In spite of these objections, however, there is a large field to tap for a cheap, fine, cool, and wholesome light. Oil is at present very largely used; but, though it is cheap, it is highly dangerous, and it involves a considerable amount of personal labor in trimming, cleaning, and supervision.

The majority of the shops are mere dens, without any ventilation whatever beyond the open door, and the atmosphere inside them, whether lighted by oil or gas, is insufferable and very unwholesome. The introduction of the electric light into such places would be a measure of public health as politic as that of pure water and as sanitary as that of the removal of filth. The electric light has hitherto been the rich man's luxury; it has not been regarded as the poor man's friend. But when in these hot climates and in these densely populated communities we can supply a light that does not vitiate the air, that does not throw hot gases into circulation to increase the already uncomfortable temperature, that removes the necessity for exceptional ventilation, that improves health and extends life—then electric lighting ceases to be a luxury; it becomes a necessity which the custodions of the public interest and the public weal are bound to seriously and promptly consider in the conscientious discharge of their public duties.

These considerations are equally relevant to barracks, prisons, and hospitals. The war department is paying £2,891 per annum for gas. For the same expenditure they can obtain more and better light, with all the above advantages and with many more besides. In our English post-office we have found that the introduction of the electric light has been paid for in the extra hours of work obtained through the reduction in hours of absence due to sickness; and the war department would assuredly find in the increased health of the troops a sound financial reason for supporting the introduction of the electric light into Malta.

It has been suggested that the introduction of the electric light into Malta should be done by some company established for the purpose. Companies are speculative. They are frequently promoted in the interests of the promoter rather than in those of the shareholder or the client. The promoter is also often the manufacturer. Hence the capital is generally watered, and the public is taxed with increased rates to enable the company to pay a dividend on

a swollen capital. The government is free from this necessity. It wants only to earn interest on money borrowed at the lowest market rate. The capital is expended for the public good and for the same ostensible purpose as that expended for drainage and for water supply.

The system that I recommend for adoption is the alternate-current, high-pressure system, with a central station in Valetta and substations in Sliema, Vittoriosa, Senglea, and Hamrun. Such a system can be easily worked and simply applied. The construction involves no difficulties, and its maintenance would be simple. I have estimated the cost at £40,000. This capital can be readily obtained by the Maltese government by transferring that amount from funds invested in consols.

The local government should be in a position to supply electricity to the clubs, hotels, and private establishments, charging the same price as is now paid for gas, which, being 4*s.* 6*d.* per 1,000 cubic feet, means 7*d.* per bot. The profit on private lightning will thus go towards paying the interest on the £40,000 transferred.

Should the scheme be acceptable and the expenditure authorized, I shall be ready to prepare complete specifications for obtaining tenders for the supply of the materials and machinery to carry out the plans.

W. H. PREECE.

December 1, 1890.

THE WINE QUESTION IN FRANCE.

REPORT BY COMMERCIAL AGENT GRIFFIN, OF LIMOGES.

All France, but especially those sections that produce wine in small quantities and those departments that have to depend on other departments for the supply of this article, has been greatly interested in the debates which have been going on in the Chamber of Deputies upon increasing the duty on importations of wine.

France has to face an unpleasant fact. The production of wine has fallen from 70,000,000 hectolitres to just about one-third that amount; for example, in 1875 the yield was 78,202,000 hectolitres, which was an increase of more than 8,000,000 hectolitres over the preceding year, while to-day the vintage varies between 23,000,000 and 27,000,000 hectolitres per annum. This enormous deficiency has been brought about by natural causes. The past 20 years have seen the French vineyards ravished by phylloxera, black rot, and other cryptogamous diseases and many deadly enemies to the vine, and, in spite of the most vigorous efforts and great energy of the proprietors in fighting these maladies, French viticulturists are becoming discouraged. In 1880 the area planted in vines was 2,204,459 hectares; with all their care in preserving the old vineyards and replanting, only 1,816,544 hectares are devoted to vineyards now, showing a decrease of nearly 400,000 hectares under cultivation.

Statistics show the strange fact that, in spite of the decrease in the production of French wine, the commerce in wine has been very active. Merchants have searched diligently to obtain wine to supply the deficit, and consequently the importations have risen from 500,000 hectolitres in 1878 to 10,519,000 hectolitres in 1890. If Paris be taken as an example of all France, it is shown that, although in the last 10 years there has been an in-

crease in the inhabitants of 225,000, the consumption of wine has fallen off 20 per cent. The diminution in the exportation is not as great as one would have reason to expect. In 1873 France exported 3,800,000 hectolitres; in 1890, with only one-third of the amount, 2,323,000 hectolitres were exported. This is a falling off of one-third, while the harvest is a decrease of two-thirds.

Every effort has been made by the exporters to hold their foreign trade and keep their customers supplied with wine. This has given rise to an entirely new industry, which was unknown when wine was cheap and plenty, namely, the cutting or blending of wines, so that the less rich in alcohol could be used as a body and the necessary amount added, either by the spirits direct or by the addition of other wine that exceeded the degree required. For example, the wine of the department of the Herault does not contain ordinarily more than 8 or 9 degrees of alcohol. This is too small a quantity to bear the trials of exportation, and fails to suit the taste of the home market; but this wine, perfumed to give it the bouquet and with the necessary amount of alcohol, is now one of the greatest supplies for exportation and home consumption. The minister of agriculture recently declared in public that "it is incontestable that many of our wines weigh more than 12 degrees," and, according to a test made by the chamber of commerce, in the Burgundy upon forty-three samples of the very finest brands only thirty-two had more than the 12 degrees, four just attained that figure, and seven fell below. It is shown clearly that there is a large quantity of what are termed *petits vins* which are wanting in the required degree of alcohol. These wines were never before employed for table use, but now, in the scarcity, in many instances they furnish the base, while Spanish wines, so rich in alcohol, raise the degree to the height required. This has been made necessary because the law prohibits the use of artificial means to change the degree of the wines. The argument in favor of these mixtures is that, as it is allowed to use a little cotton in making silk cloth, so it is permissible to use these cheap wines to mix with others in order to make a product within the reach of all. The wine merchants, who supply the home market and also export, are bitterly opposing the augmentation of customs duties on foreign wines brought into the country, but the owners of the well-known and famous chateau vineyards are seeking very strongly to increase the tariff, in order, as they say, "to fight against adulterations and falsifications."

The exportations to the United States since the new tariff has gone into effect have fallen from 257,000 hectolitres to 47,000 hectolitres; while, on the contrary, the trade with England, where there is a more favorable tariff, even to 14 degrees, the exportation has risen from 66,000 hectolitres to 400,000 hectolitres. The custom-house commission advises the placing of a tax upon every degree above 10.9 degrees; others propose a duty of 1.20 francs, or 70 centimes per degree, according to the custom-house tariff, on foreign wines showing over 10.9 degrees, which would correspond to a duty of from 33 to 66 per cent.

It has just been decided in the Chamber of Deputies that the falsification of wine must not be allowed; but this law, raising the duty on foreign wine so high, will, as a newspaper justly says—

Only aid in flooding the market with spurious and injurious stuff, to the detriment of public health. While water is plenty and fuscine, citric, salic, sulphuric, and many other acids are cheap; while it is so easy to blend and manufacture without grapes; while it requires a chemical analysis to detect from the pure juice of the grape, it will be very easy to impose upon consumers.

This wine question is of considerable importance to the United States, because many French capitalists have recently been seriously considering the project of going to California and there buying up vineyards already planted or purchasing large tracts of land where vines can be cultivated. The wine would be exported to France to supply the growing demands of this market. Already many hectolitres of American wines have found their way into this land of vineyards, where, in many cases, they have been changed but little and returned to the United States bearing the mark of some of the finest *crus*.

It is very certain that the tremendous expense under which the French viticulturist has to labor—the vineyards having to be subjected once a year to a treatment of sulphocarbon against the phylloxera; once or twice with sulphate of iron against the anthracnose; once, at least, with powdered sulphur as a protection against the oidium; two or three times, and perhaps more, the vines must be sprinkled with sulphate of copper to keep off the mildew; while the other diseases of the vine, such as the black rot, hanneton, snails, etc., all demand their own special chemical remedy—augments the price of cultivation to such a degree that only the very finest varieties will bear the great expense of cultivation. Under these conditions the wine question of France is settling itself in a way very unsatisfactory to the cultivator and consumer.

WALTER T. GRIFFIN,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Limoges, July 16, 1891.

VEGETABLE FIBERS OF TRINIDAD.

REPORT BY CONSUL PIERCE.

Referring to my report on the vegetable fibers of Trinidad, published in the February, 1891, number of CONSULAR REPORTS (No. 125), I beg to submit the following comments thereon by Mr. J. H. Hart, F. L. S., superintendent of the Royal Botanic Gardens of Trinidad.

Sterculia caribæa is a large tree. The fiber is made from the bark. I can not see how a crop can be reaped every 7 months. It is a bast fiber.

Cousin mahoe is not a species of *Sterculia caribæa*. It would be just as correct to say "pig, a specie of cow."

The crop of gumbo, or okra (*Abelmoschus esculentus*), is harvested once a year, not every 7 months. It is a bast fiber.

The crop of gemove (*Malachra*) is harvested once a year, not every 7 months. It is a bast fiber.

Plantains and bananas are both properly placed under *Musa sapientum*, according to Sir J. Hooker, of Kew.

The ramie has been in the West Indies for over 30 years. I have records to prove this. Nathaniel Wilson, of the botanic gardens, Jamaica, introduced it.

Mahoe bord-la-mer is a bast fiber; also red mahoe and rucou.

Cordia cylindrostachyd, instead of *Cordia cylendros*, is the correct botanical name for black sage.

Bois sang is *Croton gossypifolius*.

Once the bark of bois ciep is taken the tree is destroyed.

The balizier (*Hilicomia*) is wild and plentiful. By "cool soil" is meant damp soil.

It is absurd to class cocoa under fiber, for who would cut cocoa branches when their fruit is worth ten times more than their fiber?

Gumbo misse is a bast fiber, also bois l'ome.

Agave Mexicana does not grow in Trinidad.

There is no *Agave Americana* here. What plant he (Mr. St. Hill) indicates by the description would be hard to tell.

The fiber of the pineapple is well known, but it costs more to extract it than the value. It is fine and strong.

Bromelia sylvestris Vell. is a synonym for *Ananas sativus* Linell, the scientific name for the pineapple. The *B. sylvestris* of Willd is also near to the pineapple. Neither of these plants is native here, and Mr. St. Hill probably refers to *Karatas plumierii* (E. Momen), which is native. *Karatas numitis* grows at Bocas Islands.

Sansevieria zelanica is not native here. What we have is *Sansevieria longiflora*.

The *Agave rigida* var. *sisalana* has lately been introduced from Florida. It produces the finest fiber known.

The wild pine is *Karatas plumierii*, or "pita."

The *Yucca alæfolia* has the sharp needle-pointed leaf, which is against expeditious working, and the output is small.

W. P. PIERCE,
Consul.

UNITED STATES CONSULATE,
Trinidad, July 13, 1891.

Spanish railways.—The first railway in Spain was put into operation in 1848 between Barcelona and Mataro, a seaport town about 20 miles from Barcelona. During the next 42 years (until 1890) 9,774.208 kilometres of railroad were opened. During the year 1889 the Spanish railroad companies carried 24,735,627 passengers for 56,256,130 pesetas (1 peseta = 19.3 cents) and freight on which they collected 13,324,296 pesetas. Ten passengers, 28 employés, and 101 pedestrians and others were killed; total, 139. The companies had in their service 1,658 locomotives of 460,137 horsepower, 1,384 tenders, 4,732 cars for passengers, and 32,025 freight cars. Their total disbursements during said year were 82,647,550 pesetas and their total receipts 106,493,051 pesetas. The province that contains the greatest number of kilometres of railway in Spain is the province of Barcelona, which contains 742.625 kilometres.—HERBERT W. BOWEN, *Consul, Barcelona, July 17, 1891.*

THE WINES OF THE MEDOC.

REPORT BY CONSUL KNOWLES, OF BORDEAUX.

THE ORIGIN OF THE VINE IN GAUL.

Pliny, in his "Natural History" (book XII, chapter I), tells us that a Helvetian named Helicon was the first to make known to the Gauls the manner of cultivating the vine and the virtue of the fermented juice of its grape. Helicon, who, according to the great naturalist, had made a fortune at Rome and was about to return to his native land, determined to introduce to the inhabitants of Helvetia, as well as to those of Gaul (which country in his journey homeward he was obliged to traverse), the precious shrub.

Plutarch and Titus Livius, on the other hand, state that the Gauls owe the introduction of the vine into their country to a Tuscan, who, wishing to avenge himself for certain wrongs inflicted upon his highly respected person by the State, entered the lines of the Gallic forces, gave their chiefs full plenty of Italy's native wine, enchanted and then intoxicated them with its subtle power, fired their blood, and thereby excited the invasion of Italy and subsequent capture of Rome, B. C. 390.

Cicero differs from both these usually reliable historians, but, contrary to his wont, gives no reason for so doing, merely stating that the vine found its way into Gaul sometime after this period through the natural channels of commerce. Cæsar, Varro, and Strabo confirm the statement, while Justin is confident that the Phœnecians, in building the walls about Marseilles, there commenced the culture of the grape.

But it matters not when or how the vine was introduced into France. Certain it is that it found there a soil, if not rich, at least generous and grateful. It thrived, spread, and entwined its luxuriant branches in every direction. So rapid was its progress, in fact, that it even excited to jealousy the Roman invaders, who, under the pretext of averting a famine, ordered every vineyard to be uprooted and corn planted in its place. It has not only suffered from foes abroad, but at home. The soil in which it was planted was devastated again and again by barbaric tribes; the land given over to its exclusive nurture was taxed by France's impoverished monarchs as if viticulture were a crime and wine a poison. Through these and innumerable other vicissitudes it has passed, but still it remains the pride and glory of that sunny land.

I shall not stop to embrace in this treatise that which would naturally follow the history of the vine, namely, its culture, for the reason that Mr. George W. Roosevelt, my predecessor at Bordeaux, has already treated* in a very able manner that particular branch of the science. He has also, in the same report, given his attention, in a great measure, to the diseases and disasters which afflict the plant, as well as the treatment of the same, and I

* "Fruit Culture in Foreign Countries" (SPECIAL CONSULAR REPORTS).

should merely be transgressing upon the ground that he has already gone over so thoroughly were I to include these subjects within the present article.

THE MEDOC DISTRICT.

The long tongue of land stretching north from Bordeaux, between the sea on the one hand and the Garonne and Gironde rivers on the other, is called Medoc (*quasi medio aquæ*), because nearly surrounded by water. It is the northern termination of the extensive tract of sand hills and marsh land called "Les Landes," extending from Bayonne north, which changes to a bank of gravel on approaching the left bank of the Garonne and contains some of the most precious vineyards in the world. The soil is of light pebble, and, indeed, on the spots where some of the best wine is produced it appears a mere heap of quartz mixed with the most sterile quality of earth. The best wine is not produced where the bush is most luxuriant, but on the thinner soils, where it is actually stunted and where weeds disdain often to grow. Yet this very ground is the most favorable to the vine, retaining the sun's heat about its roots after sunset, so that it works in maturing its precious juices as much by night as by day. The accumulation of sand and pebbles of which this soil is composed is apparently the spoils of the Pyrenean rocks, brought down by the torrents tributary to the Garonne and other great rivers and deposited in former ages on the borders of the sea. At a depth of 2 or 3 feet from the surface occurs a bed of indurated conglomerate, which requires to be broken up before the vine will grow.

The vine is trained exclusively in the fashion of espaliers fastened to horizontal laths attached to upright posts at a height not exceeding 1½ to 2 feet from the ground, running in an uninterrupted line from one end of the vineyard to the other, and generally, that the sun may best do its work, from east to west. Manure is used sparingly, but the plow is driven between the vines four times every season, alternately laying open and covering the roots of the plant. This is performed by oxen, which, with steady and unvarying pace, tread and follow the ranks or furrows without offering the slightest injury to the vine.

The vine begins to produce at 5 years of age and continues productive for many decades. The older the vine the better the wine, and some vineyards in the Medoc have been yielding fruit for more than two centuries.

CLASSIFICATION OF MEDOC WINES.

The wines are classed into *crus* (vineyards, properties), according to their excellence. For example, there are only four vineyards to-day that are adjudged *par excellence*. Naturally the wine of these properties commands the highest price, provided the vintage has not, by some chance, been an abortive one; for, as I shall take occasion to point out later, the year has everything to do with the quality, as well as the quantity, of a crop. *Crus* of the second, third, fourth, or fifth classes give the most excellent wine, preferable to some palates to those of the first. The classification, however, is, and

always has been, admitted a just one, nor has a revision of the same been deemed necessary since the meeting of the Chambre Syndicale des Courtiers in 1885. The following is the classification referred to:

First crus.—Château-Lafitte, Pauillac; Château-Margaux, Margaux; Château-Latour, Pauillac; Château-Haut-Brion, Pessac.

Second crus.—Mouton, Pauillac; Rauzan-Ségla, Margaux; Rauzan-Gassies; Léoville-Lascases, Saint-Julien; Léoville-Poyféré; Léoville-Barton; Durfort-Vivens, Margaux; Lascombes; Gruaud-Larose-Sarg, Saint-Julien; Gruaud-Larose, Saint-Julien; Branne-Cantenac, Cantenac; Pichon-Longueville, Pauillac; Pichon-Longueville-Lalande; Ducru-Beaucaillou, Saint-Julien; Cos-Destournel, Saint-Estèphe; Montrose.

Third crus.—Kirwan, Cantenac; Château-d'Issan; Lagrange, Saint-Julien; Langoa; Château-Giscours, Labarde; Malescot-Saint-Exupéry, Margaux; Cantenac-Brown, Cantenac; Palmer; La Lagune, Ludon; Desmirail, Margaux; Calon-Segur, Saint-Estèphe; Ferrière, Margaux; Marquis d'Alesme Becker.

Fourth crus.—Saint-Pierre, Saint-Julien; Branaire-Duluc; Talbot; Duhart-Milon, Pauillac; Poujet, Cantenac; La Tour-Carnet, Saint-Laurent; Rochet, Saint-Estèphe; Château-Beychevelle, Saint-Julien; Le Prieuré, Cantenac; Marquis de Therme, Margaux.

Fifth crus.—Pontet-Canet, Pauillac; Batailley; Grand-Puy-Lacoste; Ducasse-Grand-Puy; Lynch-Bages; Lynch-Moussas; Dauzac, Labarde; Mouton-d'Armailhacq, Pauillac; Le Tertre, Arsac; Haut-Bages, Pauillac; Pédesclaux; Belgrave, Saint-Laurent; Camensac; Cos-Labory, Saint-Estèphe; Clerc-Milon, Pauillac; Croizet-Bages; Cantemerle, Macau.

Some of these chateaux produce almost 800 barrels of wine at each vintage, while others produce only 40 or 50 barrels. The prices vary according to the celebrity which the wine enjoys, the *premiers crus* commanding, as a rule, over $200 a barrel immediately after the vintage. Twenty years in bottles readily augment their value to $7 or $8 per quart.

It is singular to remark that many unclassed vineyards producing an inferior wine, though in immediate vicinity to the greater ones, do not in any manner partake of, or share in, their superior qualities. The distance of a few feet makes and unmakes fortunes.

The geographical aspect of the district of Medoc is that of an undulating country, slightly raised above the Garonne, affording here and there peeps of the river between the gentle hills and shallow gullies which intersect it. It abounds, notwithstanding the nature of its soil and altitude, in marshes and stagnant pools, which render it unhealthy; so that the chateaux which occur in it are inhabited only for a few weeks each year by their proprietors. Yet the district is populous, a group of cottages being attached to almost every vineyard and inhabited by the peasants who cultivate it. The vineyards are open fields, even those of the greatest value being unprovided with walls or even hedges.

When the grapes begin to ripen, a temporary fence of twisted boughs interwoven with furze is formed round the vines to keep out the dogs, which, strangely enough, are most destructive consumers of grapes. Further, to deter both bipeds and quadrupeds from committing depredations, guards armed with guns are posted on the watch day and night, while bits of paper stuck upon poles announce that the vineyard is strewn with poisoned sausages and that the grapes themselves are smeared with some deleterious mixture.

THE VINTAGE.

The vintage takes place in the latter part of September or early in October. It is then that Medoc presents a scene of bustle, activity, and rejoicing. The proprietors repair hither with their friends and families to superintend the proceedings as well as to enjoy themselves. Vintagers pour in from the left bank of the Gironde to assist in the gathering. Busy crowds of men, women, and children sweep the vineyard from end to end, clearing, like bands of locusts, all before them, while the air resounds with their songs and laughter. From the presses issue sounds of still louder merriment. Upon a square wooden trough stand 3 or 4 men with bare feet and legs stained to a purple that would fill the soul of a cardinal with envy, dancing and treading down the grapes as fast as they are thrown in to the melodious notes of a violin. The labor of constantly stamping down the fruit is desperately fatiguing, and without music would progress very slowly. A fiddler, therefore, forms part of every wine-grower's establishment, and as long as the instrument pours forth its merry strains the treaders continue their dance.

The date for beginning the grape-gathering can not be fixed. In favorable years it is usually toward the end of the first fortnight in September, but it is frequently delayed until the end of the month, influenced or governed, as it is, almost entirely by the temperature. The time devoted to the work varies from 2 to 3 weeks, according to the extent and importance of the property.

The vintage is gathered in as quickly as possible. As has been just stated, the vintagers, consisting of men, women, and boys, flock at this period of the year to the grape-growing districts, coming from north, south, east, and west, or, in short, from all the neighboring communes. The men receive 30 cents a day in addition to their food; the women and children half that amount. Workers at the press are paid more than the others, as they are looked upon as skilled laborers. Thirty years ago wages amounted to only half as much as they do to-day. This small army of workers is termed collectively *manoeuvres*. There is a *commandant de manoeuvres* for every twelve or fifteen rows of vines. His business is to see that the grape-cutters do not shirk their work, to take care that they do not leave any grapes on the vines, that they take nothing but what is ripe, pick up the fallen grapes, and that they do not leave dry leaves or any foreign substance in the baskets. The women and children pick the grapes, rejecting all that are decayed or rotten. A cutter is placed in every row of vines, who picks the fruit and puts it into a wooden basket. A man called the basket-emptier takes the full basket from every grape-cutter, gives an empty one in its place, and deposits the fruit into a headless cask, which, when filled, is drawn by a team of oxen to the cellars.

The cellar, or *cuvier*, where the great fermenting vats are kept, is generally a low building of rough, gray stone 30 to 40 feet in length and without flooring. At one end are several broad openings or doors, before which are placed the presses. Through these openings the casks filled with the fruit

are slid from the carts. The fermenting vats, ranged in a row, are immense oaken vessels capable of containing from six to twenty ordinary casks. When grapes and stalks are separated, the former, after being trodden, are thrown, with the juice, into the vats and there left, firmly sealed, until fermentation is accomplished. Such is the arrangement of the old-fashioned *cuvier;* but for some years past rather different structures have been adopted by some of the more important vineyards. These buildings are two stories, instead of one story, in height. The vats occupy the lower portion, while the flooring of the second story of the *cuvier* serves as a cover that can be opened and closed at will. By means of a crane the casks filled with grapes are raised to the second story, transported by a miniature railway to the press, where, after they have been crushed or picked, according to the system in vogue at the particular vineyard, they are thrown into the vat. The viticulturists of the Gironde are divided as to the value of the two systems. Those in favor of the old system do not consider that the economy of labor, if there be any, in the new sufficiently repays the expense entailed in its installation. It is claimed by the inventor of the new system that, by keeping the vat or vats alone by themselves in the lower compartment and free from the continual ingress and egress of workmen, the temperature preserves a greater equality, and, accordingly, aids fermentation. The theory is a doubtful one and remains to be proved.

To return to the first operation after the arrival of the grapes at the cellar, which consists of separating the stems, pressing or treading upon the fruit (not always done), and placing the raw product in the vats. The separating is done by aid of a horizontal latticework, either of iron or wood, about 36 inches high, and standing upon four legs. This lattice forms, so to speak, the bottom of a flat box, which would or might be compared to the top of a table. Upon it the grapes are manipulated or rubbed by the skilled hands of a workman, so that the berries drop into a trough beneath, while the stalks remain, to be thrown one side or carted away. And here a question presents itself which has given rise to much discussion throughout the wine-producing districts of France, *i. e.*, should the stalks be detached from the fruit or not? The best authorities answer:

(1) Whenever it is desirable to impart richness and delicacy to the wine, yes.

(2) Whenever the grapes contain little sugar and do not require that strength and color imparted to the wine by the stalks or through the tannic acid contained therein, remove the same.

(3) When it is desirable to lengthen the period of fermentation, the stems should be left in the wine.

In order to ascertain the amount of sugar contained in the juice of the ripened fruit, a saccharometer is used. It indicates the density of the must exactly and the quantity of sugar which it contains approximately. Through its medium may also be determined the most favorable moment for gathering. In those years when the weakness of the must induces proprietors to

add sugar to their wine the saccharometer is employed to determine the proportion required. Sugar, however, is rarely mixed with the wine of the Medoc.

When the grapes have been separated from the stalks, they fall in a great heap upon the platform on which stands the latticed table. This platform, or, more strictly speaking, square trough, is placed on a slightly inclined plane, so that the juice may be carried off, by means of a simple groove, into a receiver. The fruit that remains is either carried directly to the fermenting vat, into which it is thrown, together with the new wine, or else it is pressed. If the berries are to remain uncrushed, they give up their juice by the natural process of fermentation in about a fortnight, the skins and seeds sinking to the bottom of the vat. If the grapes are to be trodden, the operation is accomplished by spreading the fruit evenly over the above-mentioned trough, the juice being extracted by the pressure of the bare feet. The liquid extract alone is then put into the fermenting vat, while the skins are introduced into a powerful hand press, where, by the addition of water and alcohol, a second and third quality of wine is made.

Grape skins, like the stalks, contain tannic acid and coloring matter, together with a small amount of resinous sugar. These different elements are separated into their component parts by the process of treading.

Again we are led into the labyrinths of controversy in order to decide whether grapes shall or shall not be trod upon. According to some, treading produces swifter and more equal fermentation, though the wine partakes of a lighter color. Others assert that the treading serves in too great a degree to produce sediment, which naturally impairs the clearness and purity.

A number of machines have been invented to tread out the grapes, but none has replaced the human foot; the weight of the human body is enough to crush the grapes, while the sole of the foot is flexible enough not to crush the seeds, which contain an empyreumatic oil injurious to the wine.

When the new wine or the wine and grapes are put into the vats, the latter are hermetically sealed, though provided, in some instances, with a siphon to carry off the carbonic acid gas generated during fermentation. Great care is taken before the commencement of the vintage to thoroughly cleanse these great receptacles. They are first filled with water and afterwards sponged out with either alcohol or brandy.

After the wine has remained for a short time in the vats it is racked. This may be done at any time between 5 days and 5 weeks; a fortnight is about the average. Then, when fermentation is completed, the product is put into barrels. When the 60-gallon casks are ready to receive the year's vintage, the contents of the first vat are drawn off into them, being divided equally, according to the number of barrels employed. The same thing is done with the second vat, so that in the casks the lower stratums of one vat may be mixed with the upper and middle of the other.

THE VINTAGE IN THE SAUTERNE DISTRICT.

It is now left for me to describe the chemical process of fermentation, the barreling, bottling, and care of wine. But before taking up these subjects, which are identical in almost every country, I shall direct attention to the vintage in the white-wine district of France, which differs materially from that of the Medoc. The vintage in the white-wine country takes place much later than in the Medoc. The grapes are not cut until they have attained the requisite degree of extreme ripeness, and gathering is often suspended by the intervention of damp and rainy weather, for it is absolutely necessary that the berries be matured by the rays of the sun. When picked, the fruit is taken to the vat house, put into a press, and trodden with the feet. Immediately it is barreled, and each barrel, in its turn, must be completely filled. Three weeks or a month usually suffice to complete the process of fermentation. The wine rids itself of whatever impurities it may contain by means of the bunghole. It never becomes clear, however, until after the first racking, and sometimes then only partially. Three qualities of white wine are made at each vineyard. The first, called *crèm de tête*, is made from selected grapes; the second, called *vin de tête*, is the product of the next best picking; the third, *centre*, is the inferior article.

THE CHEMISTRY OF FERMENTATION.

We have sketched in brief the general process of fermentation, that is to say, we have seen that a vinous substance or material placed in a vat and sealed undergoes natural changes (to which has been given the name of fermentation) without artificial aid. Let us now investigate a little more minutely the cause of these changes.

Grapes contain, in varying quantities, sugar, gelatin, gum, fat, wax, vegetable albumen, glutin, tartaric acid free and combined with potash and lime, oxide of manganese, oxide of iron, sulphate of potash, chloride of sodium, silicic acid, tannic acid and coloring matter, chlorine, sulphuric acid, soda, and other inorganic matters in infinitesimal quantities. The saccharine materials found in the grape, as well as the pure grape sugar itself ($C_{12}\ H_{12}\ O_{12}$), exist to the extent of about 20 to 30 per cent. It is naturally this substance that serves to bring about fermentation, or chemical reaction.

All molecules are, as we know, subject to chemical change, and any change taking place among the atoms constituting any molecule is called chemical reaction. This change is expressed by molecular formulas, the chemical reactions being represented in the form of equations. Thus let AB be one molecule of any substance to be acted upon by another molecule CD; then the equation would be expressed thus: $AB+CD=AD+CB$. As no loss of weight can be the result of any chemical change, the molecular weight of each side of the equation must necessarily be equal. If the chemical change results, as it often does, in the production of any substance insoluble in the menstruum, such a compound will appear as a precipitate. If, on the con-

trary, a volatile substance is produced, it will appear either as a gas or a vapor. Now, this is exactly what takes place in the fermentation of wine, or, more strictly speaking, in the fermentation of its active principle, grape sugar; and this is its proper expression in chemical formula:

$$\overbrace{C_{12}\,H_{12}\,O_{12}}^{\text{Sugar or grape juice.}} = \overbrace{2\,(C_4\,H_6\,O_2)}^{\text{Alcohol or wine.}} + \overbrace{4\,(CO_2)}^{\text{Carbonic acid gas.}}.$$

This is called alcoholic fermentation. In a word, the molecules of the must lying in the vat undergo certain changes whereby alcohol or wine remains while carbonic acid gas is evolved. The same, or almost the same, changes take place in the formation of whisky from corn or beer from hops. Why they take place we can not explain. We merely know that they do.

BARRELING AND BOTTLING.

We now return to the barreling and bottling of wine. As to the barrels, they should be invariably of oak and of the best quality. It is scarcely necessary for me to give a description of the wood, the making, etc., as readers of the CONSULAR REPORTS may find that material in a recent article contained therein and entitled "The Stave Trade of Bordeaux." Suffice to say that a bad barrel will ruin any wine, so that the greatest care must be, and is, taken in their manufacture. Before being filled they are first rinsed with boiling water and then with brandy, after which a piece of sulphur affixed to the end of an iron rod is lit and thrust through the bunghole, serving by the fumes to further purify the interior of the cask.

The casks are ranged in rows in the cellar of the proprietor of the vineyard, resting, not upon the damp earth, but upon 4-inch beams. Once filled with new wine, they must be watched with the greatest care, and every week the cellarman must go his rounds replacing, by the aid of a glass "sampler," the portion that has evaporated. At the end of 6 months it becomes necessary to fill them only once in a fortnight. The bung of the cask must receive particular attention; the piece of linen which is wrapped around it must be changed frequently, lest by absorbing any acid it should impart it to the wine, and, in order to avoid the occurrence of this, it is usually soaked in salted water before application.

The wine should be racked off three times during the first year—in March, June, and October. I need not explain that racking—a somewhat obsolete English word—simply means the drawing off of wine from one cask into another, leaving the lees at the bottom. The barrel into which it is racked is invariably sulphurized, as before described, for the wine-growers of France take no chances. Racking is performed by means of a siphon, so that the wine may come as little as possible in contact with the air, whereby it might lose a portion of its aroma and bouquet. If racking does not seem to sufficiently clarify the contents of certain casks, the whites of half a dozen of eggs may be beaten up and mixed thoroughly with the cloudy wine. Gelatin is another substance that may be used for the purpose, and various so-called

clarifiers are to be found in the market. None, however, are of a deleterious nature.

Whenever a red wine has retained a little of its sweetness, that is to say, when all its sugar has not turned to alcohol within the vat, a second fermentation is to be feared taking place in the barrel. This will be noticed usually by inspection of the bungs, which are lifted up and sometimes thrown some distance by the generation of carbonic acid gas, which we have seen is always the product of fermentation. Racking, placing in another barrel, and passing the wine through pipes immersed in boiling water are the only remedies in this event.

During the second year, as in the first, the wine must be racked off three times. But at this period there is little or no fear of a second fermentation, or "working."

Under ordinary conditions wine may be left for 3 years in barrel. At the end of that time it should be bottled, for it ceases to mature or improve in the wood. Before bottling, the corks to be employed should be soaked either in warm water or brandy, and bad corks, like bad casks, are likewise to be avoided. The only machines made to facilitate bottling consist of an iron or steel tube that is narrower at the bottom than at the top. The bottle is placed beneath it, and the cork being forced downwards under gradually increasing pressure readily enters the neck. Sealing wax or metal caps are then used to seal the top. All that is now necessary is to place the bottles, or shelve them rather, in the cellar flat upon their sides. The cellar itself should be kept at an even temperature. Time alone is then all that is required to mature the wine, and as each year passes it improves in quality and increases in value.

There are some wines which will mature with greater rapidity than others, and—rarely in this part of France—there are some which turn out completely bad. It is often the case that when a certain vintage is bottled it is considered of exceptional quality, although some years afterwards it fails to fulfill what it has previously promised. Again, wine that is not looked upon favorably at vintage time proves excellent after it has been for several years on the market. As with all other fruits, there are good and bad years in the grape-growing districts of France. The grape is not quite as susceptible as the Delaware peach, but still there exist certain atmospheric phenomena that are disastrous to it. The vines in this region require not too much rain, but plenty of sunlight and warmth. Nor is it a good crop in point of quantity that will serve to make a correspondingly good wine. The quality depends not alone on meteorological changes, but upon a hundred known, and as many unknown, reasons. There have been in the Medoc certain years phenomenally bad and others that were looked upon as perfect. These the wine merchants of Bordeaux know like their A B C's, even as far back as 1815.

RELATIVE EXCELLENCE OF QUALITY AND CROPS.

It may not prove amiss to direct our attention for a moment to the ever varying and uncertain wine *récoltes* of the department of the Gironde during the past 25 years. It is unnecessary to go further back than 1865, for wine of a vintage older than that is seldom met with. Our chief object is to give in a somewhat didactic manner the relative and comparative excellence of those "years" which are still to be found in the market. The fact can not be too frequently emphasized that, although Château-Margaux, Château-Haut-Brion, Château-Latour, and Château-Lafitte are vineyards of the first class, they suffer from climatic changes and misfortunes generally in common with the most insignificant. Like the human species, these great fruit-growing properties have their periods of health and disease. Sometimes man is not himself, and sometimes Château-Margaux is not itself, nor can its quality be adjudged perfection. The year during which a particular barrel of wine was made is of the utmost importance to French consumers and should be also to Americans, who have hitherto attached too little significance in wine-drinking to the vintages of individual years.

To begin, then, with the vintage of 1865, we find that the temperature maintained throughout the season a degree favorable to the vines and to the perfect maturity of their fruit. This, it goes without saying, was the essential point; and yet, strange to state, as is being repeatedly proven to us, it did not guaranty the success of the harvest. The crop was an ordinary one, that is, of average quality. The new wine was soft and delicate. By degrees, though, it attained too much body, and when at length it became drinkable it came far from approaching what had been originally expected of it.

The year 1866 was damp and wet. The crop was much greater in quantity compared to that of the year preceding. Its quality, on the contrary, was wretched.

In 1867 a severe hailstorm served to materially injure the crop. It proved a small one, though of ordinary excellence. Let it be remembered that the word "ordinary," in the sense in which I desire to have it accepted, means "good."

The wines of 1868 surpassed in quantity those of the 3 preceding years. Their quality at the completion of the vintage gave great promise, but in the end turned out to be fair, nothing more.

The new wine of 1869 was remarkably good, though nothing extraordinary was expected of it. Later it turned out to be of more than everyday excellence, and at present commands a high price. The crop was, up to that period, the largest known.

The winter of 1869–'70 was intensely cold, but the crop of 1870 was by no means a small one. In point of quality the wines were very good.

The crop of 1871 was shorter than it had been since 1865, for the winter preceding was of great severity. Notwithstanding this fact, however, the wines of 1871 are of unmistakably superior quality.

The year 1872 was not a favorable one, and the wines seemed to lack character and body. The *récolte* was fair, the quality a little below the ordinary.

Frosts wrought disaster to the crop of 1873, occurring, as they did, during the last week of April. The total production of the department of the Gironde was lower than it had been since 1861. The wine was of ordinary merit.

A tremendous vintage marked the year 1874. The winter had been mild, the spring all that could be desired. A warm summer, with plenty of sunlight and the requisite amount of moisture, produced a splendid crop. The quality was proportionately good; 1874 wines command a high price in the Bordeaux market, if, indeed, they may be obtained at all.

The greatest crop ever produced in Medoc was that of 1875. The winter was damp, the spring mild, the summer warm. No better wine is available to-day than of this particular year.

Clarets of 1876 are of poor quality, and the crop was a small one.

The year 1877 was a better one as to the vintage itself, though a cold winter preceded the budding of the vines. The quality of the wine was below the average.

A small harvest marked the year 1878, the smallest since 1873. The product was good—extremely good—and the wines of some chateaux possess an extraordinary bouquet and flavor, approaching, almost, those of 1875. The quantity was not large, but the quality is of undoubted excellence, and the wine commands invariably a high price.

Wine of ordinary quality proved to be the result of the 1879 vintage. It has, however, in some instances been found faulty. The crop suffered from spring rains.

The wines of 1880 were promising at the point of early maturity. By degrees they underwent a change in the wrong direction. The quantity was small, and the vintage, all things taken into consideration, was not deemed a successful one.

The quality of the 1881 wines is exceedingly good, though the yield was rather light, giving evidence of a slight downward tendency in regard to bulk.

For 1882 the yield showed a decrease, being due, no doubt, to a very inclement spring. In quality the wines are quite inferior.

The crop of 1883 was a fairly large one, though nothing as compared to the famous year of 1875. The quality has been adjudged very poor.

Mildew attacking the plants during the early spring of 1884 ravaged and spread destruction over many of the best and most renowned vineyards, nor did it spare the small ones. Yet the vintage was not altogether a disappointing one, and its wines have turned out to be close to the average quality.

Since 1884, at which our capitulation ceases, the Medoc has produced some excellent wines, though still we find ourselves obliged to record the shortness of the crops. The wine produced in 1887 will, it is believed, turn

out to be one of rare excellence, and many have classed it with the famous vintages of 1875 and 1878. Until the others have been in bottles a few years, our decision must be reserved.

The main thing which it has been my desire to impress upon the reader in giving the foregoing summary is that old wine is not necessarily good wine. Perhaps it would be better to state the last sentence a little differently, and to say that there are some wines of comparatively recent vintages which excel in quality those of a more remote date. For example, we find that the wines of 1875 are superior to those of 1866, while the vintage of 1887 may ultimately prove more desirable than that of 1879. It is, of course, natural to give old wine the preference, but in doing so buyers must not lose sight of the fact that some of the older wines are bad, while some of the younger ones are so good that they are obtainable from the merchants only at a high figure. It is for the guidance of those who have occasion to buy Bordeaux wine that I have introduced and laid so much stress upon the quality of each individual year.

QUALITIES OF BORDEAUX WINE.

In order to present in a more condensed form the various qualities that mark the wines of each vintage from 1865 to 1884, inclusive, I have arranged the same as follows: In 1865 the quality was good; 1866, very bad; 1867, average; 1868, average; 1869, good; 1870, good; 1871, superior; 1872, inferior; 1873, ordinary; 1874, very good; 1875, excellent; 1876, inferior; 1877, ordinary; 1878, superior; 1879, ordinary; 1880, inferior; 1881, very good; 1882, inferior; 1883, inferior; 1884, medium; 1885, inferior; 1886, inferior; 1887, very good.

TASTING AND JUDGING WINES.

With some the knowledge of wine—the ability of distinguishing the good from the bad, the old from the young, the superior from the indifferent—is an art cultivated only after years of study, practice, and experience. With others it is a gift.

To taste fine wine with any degree of justice, the glass should be but half, or scarcely half, full. Then, by a gentle rotary motion of the wrist, the contents should be made to moisten the sides of the goblet without spilling any of the precious fluid over the brim. Immediately the wine emits the extreme excess of its fragrance and perfume. Just as one shakes a bottle of cologne before removing the stopper, in order thereby to obtain the full scent of the extract, so in tasting wine does the rapid evaporation of the fluid over the broad surface of the glass serve to draw from it its best qualities.

This much may be laid down to those who drink wine for pleasure and those who taste it for business: Drink always out of a large glass, though but half filled with the liquid; let the glass be invariably thin and light; let the wine itself be at a temperature of about 70° F. The rest depends upon individual acumen.

CONCLUSION.

In concluding a report which, I believe, will not only be interesting, but serviceable to our native growers, I realize the fact, upon looking over the pages of my manuscript, that I have only begun. To completely exhaust the subject would be impossible; to even accord to it the research it merits would demand the complete and undivided attention of the student for a period of years. As a contribution, however, to the literature of the art of wine-making, I trust that this article, though short, may at least serve a purpose.

HORACE G. KNOWLES,
Consul.

UNITED STATES CONSULATE,
Bordeaux, July 26, 1891.

SHIPPING AND TRADE OF MALTA.

REPORT BY VICE-CONSUL BALBI.

I have the honor to transmit you herewith the shipping statistics of this port from January 1 to June 30 last, together with the current prices of coal, petroleum, tobacco, exchanges, etc., during that period.

SHIPPING.

Table showing the arrivals at the port of Malta for 1890–'91.

Flag.	War ships.	Steam and sailing yachts.	Merchant steamers.		Merchant sailing vessels.	
			Number.	Tons.	Number.	Tons.
British	72	32	1,336	1,755,094	100	7,483
Spanish	3					
Portuguese	2					
Italian	1		87	49,641	417	15,521
Roumanian	1					
American		1				
German		1	50	52,352		
French		1	51	43,651		
Norwegian			44	45,634		
Austro-Hungarian			35	31,144	2	786
Greek			32	40,029	80	14,144
Ottoman			10	11,736	32	3,759
Swedish			6	3,990		
Danish			4	3,305		
Belgian			3	3,890		
Russian			2	1,842	1	103
Dutch			2	984		
Montenegrin					4	873
Tunisian					2	70
Samiatte					1	42
Total	79	35	1,662	2,043,292	639	42,781

The number of steamers which passed in sight of the island was 467.

The number of passengers arriving, civil and military, was about 27,669.

Importation of coal.

	Tons.
South Wales	195,477
The Mersey	11,797
North Country (Newcastle)	11,441
Total	218,715

The only ship flying the American flag which arrived in this port during the last 6 months was a steam yacht. During said period, however, five English merchant steamers, laden in United States ports for ports further east, called here for the purpose of coaling, while eight other English steamers called here for the same object, having cargoes for ports in the United States from ports further east. An Italian sailing vessel which put in here with a cargo of licorice root for New York sailed for that port in April last, after having effected the necessary repairs.

From the preceding figures it will be observed that the number of steamers arrived in the past 6 months is somewhat below that of the corresponding period in 1890. More steamers have passed this island in daytime than in the previous corresponding period, but this number does not make up for the deficiency in the arrivals. A good many steamers pass this island during the night, when they can not be observed. This circumstance, coupled with the keen competition of neighboring ports, say Port Said, Algiers, and Gibraltar, may account for the diminution in the number of steamers arriving here for the purpose of coaling, while it is well known that a good number of steamers are not trading, English steamship owners preferring to tie their steamers up rather than work them unprofitably during the existing depression in the freight market.

The quantity of coal imported in the last 6 months is considerably below that received in the corresponding period last year, which may be accounted for by the diminution in the number of steamers calling here for the purpose of coaling. Freights out were also somewhat easier, and the state of the shipping trade was a little better, while at the close of the previous corresponding 6 months the strike of the dock and railway men in South Wales was threatening to assume large proportions and to become a matter of long duration, which induced coal merchants here to lay in large stocks. The prospects of the lifting of the present depression in shipping being very unsatisfactory, coal merchants here find no inducement to carry a heavier stock than is needed for actual wants.

Business in general has not been satisfactory in the past 6 months, and, although it is usual during the summer months to observe a slackening in trade, yet the stagnation this summer is almost unprecedented.

AMERICAN LEAF TOBACCO.

The quantity of American leaf tobacco imported in the last 6 months was 527 hogsheads, as against 279 hogsheads imported during the corresponding period last year. Of the 527 hogsheads received 251 were from or via France, 234 from Italy, 35 from or via England, and 7 from the

United States. The 487 hogsheads received from Italy and from or via France (Marseilles) were the rejections of the Italian *regie*, a class of tobacco which is admirably suited for the making of the strong-flavored cigars required here and at the same time relatively cheaper than any other description of Virginia or Kentucky tobacco obtainable. Although the importations in the past 6 months considerably exceeded those of the corresponding period last year, business in leaf tobacco was in no way brisker and the stocks at present accumulated here are in excess of the wants of this market. The following have been the prices obtainable per 100 pounds:

Old heavy dark lugs	$3.42 to $4.11
Leafy lugs	4.80 to 6.17
Common leaf	6.85 to 10.28

MANUFACTURED TOBACCO.

The importations of cavendish and cut tobacco amounted to 753 packages—578 packages from or via England, 146 from the United States, 24 from Holland, and 5 from or via Gibraltar—as against 1,005 packages imported during the same period last year. The diminution observable in the quantity received is due to the depression in shipping already referred to, this description of tobacco being principally supplied to the crews of steamers calling here.

COAL.

The price of coal has been throughout the past 6 months $5.64 per ton, delivered free into ships' bunkers, for best Welsh steam coal and $5.40 for Newcastle coal. The rates per ton of freight on coal from South Wales ports were as follows:

January	$1.62 to $1.86
February	1.68 to 1.80
March	1.68 to 1.80
April	1.44 to 1.68
May	1.32 to 1.44
June	1.35 to 1.44

PETROLEUM.

The comparatively large importations of American oil here have been entirely stopped since the establishment in this place of Russian oil tanks, the price at which the Russian oil imported in bulk can be sold making it impossible for American oil to compete with it. The oil imported here must also not flash under 76°F., which circumstance also militates against the usual brands of American oil imported here, viz, "Radiant," "Atlantic," and "Pacific."

The importations of Russian oil have been 310,000 gallons in bulk, 250 barrels, and 5,000 cases. The oil received in bulk is packed in tins and cases made here, and is sold at from 96 cents to $1.04 per case containing 2 tins of 5 gallons each. The oil imported in original cases is sold at

$1.16 per case, but, although the oil and packing is superior to that handled here, it is not so largely taken as the cheaper stuff.

EXCHANGE.

The selling rate of good commercial paper on London has been one-half to five-eighths of 1 per cent. premium for short sight and par to one-half of 1 per cent. discount for 3 months' bills. Exchange on France for short-sight paper has been one-fourth of 1 to 1 per cent. discount. A short-sight bill on New York would be negotiable at $4.98.

J. F. BALBI,
Vice-Consul.

UNITED STATES CONSULATE,
Malta, July 8, 1891.

TRADE AND INDUSTRIES OF POMERANIA.

REPORT BY CONSUL KELLOGG, OF STETTIN.

GEOGRAPHICAL FEATURES.

The province of Pomerania extends from 50° 57′ 50″ to 54° 50′ 5″ north latitude and from 30° 4′ 29″ to 35° 55′ 16″ east longitude. It is bounded on the north by the Baltic Sea, on the east and southeast by West Prussia, on the south and southwest by Brandenburg and Mecklenburg-Strelitz, and on the west by Mecklenburg-Schwerin and Mecklenburg-Strelitz.

Division.—The enclave of Zettemier and the islands of Zingst, Hiddensee, Rügen, Usedom, and Wollin, extending along the western half of the coast, are included in the province of Pomerania. Pomerania is divided into three government departments (Stettin, Stralsund and Cöslin), two town departments or magisterial districts similar to the English mayor and corporation (Stettin and Stralsund), and twenty-eight provincial districts (Stettin, 12; Cöslin, 12; Stralsund, 4).

With an area of 301.22 square kilometres, Pomerania has a population of 1,462,290 inhabitants (by the census in 1885, but much increased since). Of these 97.6 per cent. are Protestants, 1.2 per cent. Roman Catholics, and 0.9 per cent. Jews. The province has therefore 48.5 inhabitants on each square kilometre and can not be called thickly populated.

Pomerania has 73 towns (9 having a population of over 10,000 inhabitants), 2,172 county parishes, and 2,497 estates. Of the total population 32.83 per cent. live in towns and 67.17 per cent. in the country.

HISTORY.

Pomerania in the earliest times was inhabited by a Celtic race, followed subsequently by German races, which were in turn supplanted by the Wends, who were called Obotrites and Weleten. These latter named the land "Po-more," that is, "on the sea." Later it appears under the name of Pomoren or Pomerani, and was the most considerable portion of the ancient

Wendish Kingdom. With the establishment of Christianity in 1124 by Bishop Otto, of Bamberg, came the emigration of large numbers of Saxons from Brunswick, Westphalia, and East Friesland, but the ancient name of Pommern was still retained. The Saxons being the ascendant people, the Germanism of Pomerania became complete, and it is only by names and a few of the customs and usages that one is reminded at the present day that it was once inhabited by the savage Wends.

The old names that remain in use are Vorpommern and Hinterpommern, the former to the west, and the latter to the east, of the River Oder. The eastern part of the governmental district of Cöslin is still sometimes called Kassubenland, and, according to Tausand, is identical with Pommerellen.

FORMATION.

Pomerania is for the largest part a flat, alluvial country, more particularly in Vorpommern, which is deeply intersected by arms of the Baltic forming lakes and creeks, useful in earlier days to the old sea robbers. On the islands of Rügen, Usedom, and Wollin, however, there are slight elevations, and the scenery is romantic and picturesque; especially remarkable are the precipitous cliffs of Rügen.

MINERALS AND METALS.

There are no minerals or metals of any consequence at present mined in Pomerania, with the exception of small quantities of ironstone and a little salt. Lime is found on the Dicvenow River, and the island of Rügen has inexhaustible beds of chalk. Brown-coal pits have been opened at Podejuch, on the northern edge of the Bahn plateau; in the valley of the Oder at Dahlow, Trampke, and in the western part of the lake district; and on the shores of the Baltic at Zaskenzien, in the district of Lauenburg.

AGRICULTURE.

The 67 per cent. of the population (as already stated) dwelling on the plains and flat lands of Pomerania are agriculturists, with the exception of those living on the immediate seacoast, who are chiefly engaged in the shipbuilding and fishery trades. It is also from among these latter that the largest portion of the sailors for the mercantile and naval marine of Germany are drawn.

There are no doubt large areas of land in Pomerania lying uncultivated, but this is owing to the immense tracts of marsh or bog lands, useful only for the purpose of cutting peat. The province, also, is only thinly populated and agricultural labor difficult to procure, much machinery being used on the farms.

Cereals.—The various cereals that are cultivated in the largest quantities and to the best advantage are wheat, rye, barley, a small amount of oats for home consumption, clover, and rape seed.

Live stock.—The live stock of Pomerania numbered, by the census of 1885, 172,181 horses, 485,586 head of cattle, 3,214,165 sheep, 328,124 pigs, 54,880 goats, 183 asses, and 87,025 hives of bees.

Pomerania stands above all the other provinces of Prussia, with the exception of Silesia, in the matter of sheep-breeding, extensive sheep farms being a prevalent feature in this province; the number (3,000,000) speaks for itself. A large quantity of *Kammwolle* (combed wool) is obtained from these sheep. The Rambouillet sheep, which were originally imported from France, having a finer fleece and stronger bodies, are purchased from the sheep farmers here for considerable sums for breeding purposes, and have spread from Pomerania all over Germany. English sheep have been imported for breeding with the other species; these latter are mostly fattened for slaughter.

Farm labor.—The method of the employment of the farm laborers is carried on in the following manner:

(1) Permanent laborers (*Instleute*) for the far larger part are those who, having been born on the estate, remain on it all their lives, their contract with their employer being, however, renewable from year to year. Each family receives a free dwelling, consisting of two rooms (one large and one small), a kitchen, a loft, and a cellar; also outhouses for pigs, goats, poultry, etc. In land they receive 60 square ruthen (1,020 square yards) for a garden, 150 square ruthen (2,550 square yards) for potato and rye growing, 24 marks yearly for firing, and free carriage of fuel. In wages a healthy man receives 1.25 marks (30 cents) daily from April 1 to September 30 and 1 mark (23.8 cents) daily from October 1 to March 31. Each family is obliged to provide one *Hofgänger*, either boy or girl, to assist in work on the estate. These receive from their employer as wages from 25 to 60 pfennigs (6 to 14 cents) daily. The wife is not obliged to work in the fields, but she is expected to milk the cows, for which she receives from 1 to 2 litres of milk. If she does work on the estate, she receives 1 mark (23.8 cents) per day from May 1 to November 30 and 75 pfennigs (18 cents) per day from December 1 to April 30, but is generally paid according to her value as a worker.

The *Instleute* have opportunities of increasing their yearly wages by taking job work; for example, in spring there is hoeing, in summer harvesting and mowing, and in autumn gathering roots and fruit. Thus a man can earn as much as 3 to 4 marks extra per day, the wife and *Hofgänger* together from 2 to 3 marks extra per day, or they may be paid in kind, as in wheat, hay, etc. Should a family bring more laborers, they are paid and treated as free laborers.

(2) Free laborers are those who do not live on, or belong to, an estate, but mostly dwell in the neighboring villages and are under no obligations whatever to the estate-holders. Their daily wages average as follows: Men, 1.25 marks (30 cents) from April 1 to June 30, 1.50 marks (35.7 cents) from July 1 to November 30, and 1 mark from December 1 to March 31. Besides this they receive, whilst hoeing potatoes, the so-called *Vorkost*, *i. e.*, a free breakfast, dinner, and supper, consisting of potatoes and herring, but are generally paid by time. They also receive far higher wages during

harvesting and fruit-growing time, man and wife being paid in one lump sum. A woman can earn 1 mark (23.8 cents) per day from May 1 to November 30 and 75 pfennigs (18 cents) from December 1 to April 30. The rate paid for job work is similar to that paid to the *Instleute*. These figures only give a very rough average of wages.

The engagement of free labor during busy times, as in the haymaking, harvesting, fruit-gathering seasons, etc., is subject to keen competition between the various employers. It is both interesting and amusing to see the agents (often the police officer stationed in the village) of various estate-holders ringing their bells in the principal street of a village and declaring that they will give so much a day—the opposition agents overbidding each other—whilst the objects of their contentions calmly await results. The highest bidder usually obtains the pick of the laborers. This is more generally, because more successfully, carried on in the beerhouses, but, with railway communication so rapidly extending, laborers from the south are able to finish work on the earlier crops in their own districts and yet be in ample time for the later harvesting in the north. Thus the local laborer is now becoming of less and less value, and this has had a tendency to lower wages to such an extent during winter and spring months that the village laborer is constantly seeking employment at the factories in the towns. Indeed, so difficult has it become to obtain laborers at the harvesting times that some of the estate-holders engage railway trains to bring laborers from West Prussia, Posen, etc., the nearest being from the Spreewald, south of Berlin. Very few, if any, laborers come from the west of Germany.

These gangs of workmen and women are generally led by a head worker (*Vorarbeiter*), who receives the orders and the wages for the whole of his or her gang. They are usually employed by the job (*Accordarbeit*). Men and women, however, are not always required at the same time. For weeding and potato-gathering women are alone needed, and, therefore, often gangs of women are engaged separately without men. During the potato-gathering season the little town of Kalliess, in Pomerania, which is estimated to contain from 3,000 to 4,000 inhabitants, and where the people are celebrated as potato-diggers, is completely deserted, only the mayor and bell-ringer being left in the town, the people, who are all of the laboring class, having gone to the harvest and potato-gathering throughout Pomerania. They leave their houses locked and the keys in the hands of the mayor, as they often do not return for months. During the winter the people of Kalliess are engaged in making boots, which are afterwards sold at the various fairs.

AGRICULTURAL MACHINERY.

Messrs. Schmitt & Ahrens, of Stettin (one of the largest import houses of agricultural machinery and live stock in the north of Germany), have sent the following report:

Before 1865, when an international agricultural show was held at Stettin, only primitive implements had been used in this province, as well as almost all over Germany. At this show, by the efforts of Messrs. Bailey & Leetham, of Hull, and Mr. Ahrens, of our firm, most of the

well-known English makers of agricultural machinery and implements sent exhibits and were represented by our firm.

During the time of the show, as well as in the years following, we sold for these firms large numbers of engines and thrashing machinery, reapers, mowers, haymakers, chaff-cutters, corn grinding and crushing mills, winnowers, horse-gear thrashers, turnip-cutters, oil-cake breakers, plows, Coleman's cultivators, harrows, rollers, brick-presses, etc.

The use of reapers and mowers was, up to then, a novelty, and, though in the beginning much distrust was felt respecting them, they, as well as the steam threshing machinery and other labor-saving machines, became favorite articles with the German land proprietors and farmers. During the year 1873 our firm alone sold eight hundred and eighty-three reapers and mowers and eighty-nine large steam threshing machines to all parts of North Germany. Since that year the demand for all sorts of agricultural machines and implements manufactured in England decreased successively for the following reasons:

(1) Laborers were again plentiful and wages low.

(2) Continued poor crops.

(3) The great progress which the German manufacturers have made since the French war.

(4) The customs duties, which did not exist up to 1873, and which have been levied since on all machines and implements. In 1878 these duties were still further increased, viz, from $7.50 to $12.50 per ton, and for portable engines and boilers to $20 per ton.

A great variety of articles formerly imported from foreign countries, especially England, such as plows, harrows, drills, broadcast sowing machines, horse hoes, rollers, haymakers, rakes, chaff-cutters, grinding mills, horse-gear thrashers, manure-distributors, peat presses, drain pipe and brick presses, dairy implements, movable railroads for the field and forest, and all machinery for distilleries, sugar works, and starch works, both good and cheap, are manufactured in Germany; so that, even if there were no custom-house duties existing, foreign makes could hardly compete.

In some articles, as seed-drawers, horse rakes, binders, reapers, and mowers, the Americans command a share in the market.

From this it will be seen that the import of English agricultural machines and implements has become of late reduced to a few articles, such as steam plows, portable engines and thrashing machines, reapers, mowers, haymakers, corn screens, winnowers, grinding mills, gorse-cutters, oil-cake breakers, turnip-cutters, and chaff-cutters.

TRADES WAGES.

The wages of the workmen of various trades may be seen by the following statement:

Bricklayers	per hour...	$0.12
Finishers	do.....	.14 3/16
House carpenters	do.....	.11
Employés at the waterworks	do.....	.13
Overtime	do.....	.12
Lime and brick carriers	do.....	.10
Painters	do.....	.10
Farm laborers	per day...	.36
Farm servants	per week...	2.26
Farm lads	do.....	1.67
Dock laborers	per day...	.73
Overtime	per hour...	.12
Lumpers	per day...	.60

Table showing the wages per day of male and female laborers in Stettin, as compared with those in the country.

Description.	Stettin.	Country.
Male:	*Cents.*	*Cents.*
Over 16 years	48	23.8
Under 16 years	23.8	12
Female:		
Over 16 years	36	18
Under 16 years	14.3	10

HISTORY OF STETTIN.

Stettin, the first German commercial port on the Baltic, and second only to Hamburg in the whole of the Empire, has developed in a wonderful manner during recent years, and from a small provincial town has become a center of commerce and industry. Stettin became a German town in 1243, and was the place of residence of the dukes of Pomerania. In 1648 it was taken by the Swedish army. Stettin finally became a Prussian city in 1720, and then began the first movement towards future importance.

The fortifications designed and carried out by Frederick William I enlarged the circuit of the town considerably. In 1845 they were again enlarged, and the so-called Neustadt was drawn within the circle. But it was only in 1873 that the city of Stettin was emancipated from the thraldom of ramparts, and when the order was given to destroy and level the surrounding fortifications the progress was enormous.

In 1871 the inhabitants of the town numbered 76,154; in 1875, 85,727; in 1880, 91,755; in 1885, 99,543; and in 1890, 116,139.

ADJACENT TOWNS.

These figures do not include the large adjacent towns of Grabow and Bredow, and which may be said to be very important parts of Stettin. Grabow has large and important shipbuilding wharfs and engine works, and Bredow is celebrated throughout Europe and beyond as being the site of the renowned Maschinenbau-Actien Gesellschaft Vulcan, on the wharfs and docks of which have been constructed the greater portion of the largest men-of-war of the German navy, as well as several of the North German Lloyd's large passenger steamers and those of the Hamburg-American lines, besides an enormous amount of other work for railways, canals, harbors, docks, etc.

Züllchow is but a short distance from Stettin and may be said to form a portion of the manufacturing town of Stettin, as very large factories of various kinds are situated here, the largest being the steam flour mills and the cement works.

The number of inhabitants of Grabow is 15,644; of Bredow, 13,713; and of Züllchow, 6,711. Besides, there are several smaller towns of about 2,000 inhabitants which lie within the environs of Stettin.

INDUSTRIES OF STETTIN.

The chief industries of Stettin have largely developed during the last 15 or 20 years and have become manifold and important. Shipbuilding is very largely carried on, the banks of the deep River Oder offering excellent facilities for the formation of docks, slips, etc.

Shipbuilding.—During the year 1890 shipbuilding increased everywhere. In England the tonnage of vessels built, nearly 99 per cent. of which were of steel, amounted to 1,283,333 tons against 1,300,933 tons in 1889. The Clyde works furnished Germany with thirteen steamers of 45,317 tons. Much activity has also been shown in replacing old steamship engines with new ones. Lower freights may perhaps reduce shipbuilding for the merchant marine in general. The shipbuilding works at Stettin, however, will be little affected.

Among the principal shipbuilding yards may be mentioned those of the Vulcan Company and of Messrs. Miller & Holberg.

On the wharfs of the Stettiner Maschinenbau-Actien Gesellschaft Vulcan were finished and delivered the fast screw steamer *Spree*, of 6,963 British registered tons and 11,500 independent horse-power, for the North German Lloyd, at Bremen; the fast screw steamer *Havel*, of 6,963 British registered tons and 11,500 independent horse-power, for the North German Lloyd, at Bremen; the ice-breaker screw steamer *Berlin*, of 481 British registered tons and 850 independent horse-power, for the Merchants' Corporation, of Stettin. In course of construction were the fast twin-screw steamer *Fürst Bismarck*,* having a displacement of 11,600 tons and 14,000 independent horse-power, for the Hamburg-American line; two ironclad twin-screw corvets, having a displacement of 10,000 tons and 8,000 independent horse-power, and a dispatch steamer, for the German navy; the side-wheel steamer *Victoria*, of 240 British registered tons and 450 independent horse-power, for Leer; and several smaller steamers for foreign account.

The Vulcan works required, in 1890, the following raw materials:

Articles.	Quantity.	Articles.	Quantity.
Iron:	*Kilos.*	Copper:	*Kilos.*
Raw	2,457,522	Raw	234,916
In bars	2,171,308	In rolls	29,284
In different forms	1,099,474	Sheathing	155,495
Plates:		Tin	50,404
Iron	1,839,599	Lead	11,353
Steel	8,018,651	Zinc	54,212
Corner and bulb steel	1,482,905	Coal	25,459,500
Steel for tools	38,230	Coke	3,920,000
Forgeable iron	143,385		
Forgeable steel	1,353,789		

The machinery consisted of sixty-five different steam-engines of 1,863 horse-power, sixteen different steam hammers of 241 cwts., and the number

* This has since been launched and finished. For a more complete description of this elegant and fastest transatlantic steamer see report of December 4, 1890.

of employés was 4,409 in 1890, against 4,014 in 1889. Seventy-five vessels were repaired in the floating dry docks. Besides the engines and machinery for the vessels and locomotives in construction, there were completed two new engines for two larger steamers, one steam steering apparatus, two ship engines, and twenty-three stationary steam-boilers, while sixty-four railway engines were delivered on order. The value of the invoices of goods delivered in 1890 amounted to 13,895,265.49 marks, and the value of the goods in construction and ordered up to date in 1891 amounts to 26,500,000 marks.

The machinery works (formerly Möller & Holberg) delivered in 1890 twenty-five vessels for sea and river traffic of 3,941 British registered tons and 3,120 independent horse-power. In course of construction in the beginning of 1891 were nineteen vessels of 1,929 British registered tons and 3,225 independent horse-power.

The sewing machine factory of B. Stöwer employed, during the year 1890, an average of 450 hands a day, with wages varying from 23 marks to 32 marks a week, according to work performed. The manufactures increased about 10 per cent. in comparison with preceding years, but higher prices for wages and material prevented an increased profit, especially as the tariff duties in other countries confined the sale to Germany exclusively, where the home industry almost rules the market.

Cement, etc.—The export of cement from Germany amounted in 1890 to 341,834 barrels, against 274,300 barrels in 1889. The home consumption has decreased, because of the large and continued strikes in the building trades and an early winter.

The Stettiner Portland Cement Fabrik (Lossins-Delbrück) employed in its works and chalk mines about 550 hands, with an average pay of 2.70 marks per day, and declared a dividend of 27 per cent.

The Portland Cement Fabrik Stern (Toepffer, Grawitz & Co.) produced 193,400 barrels, containing 171 kilogrammes per barrel, against 203,000 barrels in 1889. This company paid in 1890 434,176 marks, or 2.71 marks each per day, for wages, against 432,346 marks, or 2.58 marks each per day, in 1889.

The Stettin Bredower Portland Cement Fabrik, damaged by fire in 1889, began work towards the second half of the year 1890. This company produced 89,995 barrels of cement and 2,794,000 bricks, employing about 280 hands and paying 208,341 marks for wages.

The Stettiner Chamotte Fabrik Actien Gesellschaft (formerly Didier) increased its capital in 1890 from 2,000,000 to 4,000,000 marks, realizing a gross profit of 886,127 marks and declaring a dividend of 30 per cent. The company owns, besides its former establishment, chamotte works in Bodenbach and Niederlahnstein; gas works in Lobositz, Delitzsch, Nieder-Ingelhein, and Lichtenburg; and a kaolin wash at Bornholm. Its reserve funds amounted to 1,375,000 marks.

Paper, etc.—The Papierfabrik Hohenkrug, near Stettin, declared a dividend of 2 per cent. The cellulose factory at Altdamm, near Stettin, declared for 1889–'90 a dividend of 16⅔ per cent.

Sugar factories.—The Pommersche Provinzial Zuckersiederei sold its product at remunerative prices in the first months of 1890, which slackened in the following months and later revived at rising prices, though they did not increase in proportion to those of raw sugar. This factory used 632,000 cwts. of raw sugar in 1890, against 355,000 cwts. in 1889, selling 619,000 cwts., against 362,000 cwts. of different grades in 1889. Steffen's wash systems, a new method of refining sugar, was introduced for the first time, and in every respect came up to all expectations. About 525 men and women were employed per day in 1890, against 422 in 1889, and 472,533 marks were paid for wages in 1890, against 356,756 marks in 1889. The cost of production being greater and competition livelier, the profits were smaller. From the net profit of 807,173 marks a dividend of 25 per cent. was declared. Its exports of sugar from Stettin and Swinemünde amounted in all to 132,700 tons of every description, against 68,300 tons in 1889.

Potato-spirit distilleries.—In consequence of the increased cultivation of potatoes large distilleries have been erected in the country near Stettin for the preparation of potato spirits.

Soap.—Nearly 300 men were kept busy in the soap and candle works of Stettin.

Matches.—In the district of Schlawe 298 men, besides women and children, were employed in the manufacture of matches.

Oil mills.—The oil mill of A. H. Zander consumed 10,800 tons of rape seed, extracting therefrom 3,900 tons of oil and manufacturing 6,350 tons of rape-seed cake. It exported abroad 1,750 tons of oil and 2,900 tons of cake. The wages paid amounted to 62,000 marks. The oil mill of William Dilger consumed about 11,800 tons of rape seed, against 11,200 tons in 1889, extracting therefrom about 4,350 tons of rape-seed oil and manufacturing about 7,000 tons of rape-seed cake.

Chicory.—I. G. Weiss, of the chicory works, reported that the sale for home consumption decreased in consequence of the high prices of coffee, which, according to experience, always affects the consumption of chicory. Toward the end of the year large orders from the United States were received, which not only equaled those of the previous year, but even exceeded them. The price of raw material rose from 12 to 14 marks, thus permitting the importation of washed chicory roots from Belgium, which had ceased for several years. The chicory factories now generally prefer roots which have been washed before being kiln-dried. The factory employed 95 hands (men and women), who received 56,750 marks for wages, being 15 pfennigs a day more than in 1889.

Chemical works.—The Chemische Produkten Fabrik Pommerensdorf continued work throughout the year 1890. It consumed 76,558 tons of raw material and fuel, produced 49,006 tons of finished manufacture ready for consumption, and declared a dividend of 10 per cent.

The Union Fabrik Chemischer Producte sold 64,480 tons of artificial manure and acids in 1889–'90, valued at 5,526,947 marks, against 50,616

tons, valued at 4,336,241 marks, in 1888–'89. The net profit being 372,056 marks, a dividend of 12 per cent. was declared. The company increased its capital to 3,000,000 marks.

Flour mills.—The large wheat and rye crops of 1889, excellent in quality, enabled the small provincial mills to compete with the large mills, which were embarrassed by heavy expenses because of high wages and high prices for coal and lubricating material.

Rye, being too dear in northern Russia, had to be imported from southern Russia, and this made the export to the west impossible and compelled the mills to shut down. Though wheat grinding was not unfavorable, it remained dull because the supply was greater than the demand.

The Stettiner Dampfmühlen Actien Gesellschaft declared a dividend of 6¾ per cent. only through their foresight in laying in during the last months of 1890 a large quantity of rye.

STETTIN AS A TRADE CENTER.

Shipping.—Stettin, besides being the chief German port on the Baltic, is also the nearest port by rail and canal to Berlin, the distance by rail being about 80 English miles, or 2½ hours' journey, and by water 120 English miles. The great increase of shipping at Stettin during the last few years has caused a demand for more extended quay room, which difficulty has been met by building a new harbor. The chief drawback to Stettin as a port has hitherto been the want of water in the rivers Oder and Swine. The captain of a steamer of 500 to 600 tons from England reported in 1853 that the Oder was nothing better than a mudhole. Now there are vessels of 2,000 tons frequently visiting this port, and the captain of an American full-rigged sailing vessel, who just left this port, said that he had never entered a cleaner river, though he was lying at anchor just below the town. Great improvements have been made by deepening the bed of the river by dredges, which are continually at work, and it is intended to give to the whole distance from Stettin to Swinemünde a depth of 21 feet; the present depth is 17 feet. The distance itself has been shortened remarkably by a canal on the island of Usedom called Kaiserfahrt, whereby much of the River Swine is avoided.

Tourists are beginning to appreciate the excellent and interesting route via Stettin to Denmark, Norway and Sweden, and Russia, the wild scenery on the coast of the island of Rügen, which the steamers have to pass, forming by no means the least picturesque part of the trip.

The river trade with Berlin is carried on by the River Oder, in connection with a canal, by which goods are conveyed in a much cheaper way to Berlin from Stettin than from Hamburg, the latter place being about twice the distance from Berlin.

River freights.—Lighters on the Oder carry from 2,500 to 3,000 cwts. of grain in bulk or in bags for 4 marks per ton; light goods (oats, bran, etc.), 4.50 marks per ton; and general cargo, 30 pfennigs per cwt. in sum-

mer and 5 pfennigs per cwt. more in spring and autumn. Lighters take about 8 days to make the trip from Stettin to Berlin.

Canals.—It is now proposed to build a deep-water canal from Stettin to Berlin, some preliminary work for which has already been done. This will, no doubt, be chiefly valuable from a strategic point of view. It will also have the advantage that much larger lighters will be able to proceed to Berlin than by the present water way, causing freights to become cheaper.

Home shipping.—The total number of steamers belonging to the province of Pomerania on the 1st of January, 1890, was 83, of 34,204 tons; sailing vessels, 242, of 63,360 tons. The number of vessels belonging especially to the port of Stettin on the 1st of January, 1890, was 193, of which 32 were sailing vessels, 71 seagoing steamers, and 90 river boats, having in all 41,856 registered tons. This number was increased by 10 vessels and 5,056 registered tons during the year 1890.

Foreign shipping.—The Hamburg-American Line, of Hamburg, runs large passenger boats every fortnight from Stettin to New York, while two English steamship lines also keep up a regular traffic between England and Stettin—James Currie's, from Leith, generally calling both ways at Copenhagen, and Thomas Wilson, Sons & Co.'s, from Hull, also calling both ways at Copenhagen. The latter company runs boats every week.

Table showing the amount of shipping at Stettin in 1889 and 1890.

Year.	Steamers.		Sailing vessels.		Total.	
	No.	Tons.	No.	Tons.	No.	Tons.
1889	2,636	1,029,640	1,460	168,403	4,096	1,198,043
1890	2,804	1,148,960	1,542	156,329	4,346	1,305,289

Table showing the shipping at Stettin according to nationality.

Flag.	Steamers.	Sailing vessels.
	Number.	*Number.*
German	1,589	927
Swedish	584	139
English	360	108
Danish	332	248
Norwegian	83	85
Dutch	38	14
Russian	16	6
Spanish	1	.....
French	1	9
Austrian	.....	3
Italian	.....	2
American	.....	1
Total	2,804	1,542

This shows an increase of shipping in 1890 over 1889 both in the number of vessels and their registered tonnage, the increase in tonnage being 107,246

registered tons. These results must be attributed chiefly to the work done by the ice-breaking steamers, which permitted river navigation possible during the winter season, especially by the regular lines between Hull, Leith, London, Glasgow, Greenock, Amsterdam, Rotterdam, the Mediterranean, New York, etc.

Freight rates.—The freight rates for steamers were low during the whole year, without much fluctuation. The rates per ton to New York for steamers in 1890 were as follows:

Articles.	Rate.				Articles.	Rate.			
Up to May 1.	s.	d.	s.	d.	*Up to September 1*—Continued.	s.	d.	s.	d.
Sugar	12	0 to	11	0	Rags	18	0 to	18	6
Cellulose	18	6 to	18	0	Destrin			14	0
Spelter	9	6 to	9	0	*Up to December 31.*				
Rags			18	6	Sugar	10	6 to	12	0
Up to September 1.					Cement			11	6
Sugar			12	6	Rags and cellulose	17	0 to	19	0
Cellulose	18	0 to	17	6	Spelter	9	6 to	16	6
Spelter	9	6 to	9	0	Destrin	14	0 to	15	0

The rates for sailing vessels in 1890 were: To Philadelphia (up to May 1)—cement, 10*s.* 6*d.* per ton; rags, 12*s.* 6*d.* per ton. To New York (during summer up to September 1)—cement, 5*s.* to 6*s.* per ton; rags, 14*s.* to 15*s.* per ton; glassware, 4*s.* to 4*s.* 6*d.* per cubic metre. To New York (up to December 31)—cement, 3*s.* 6*d.* to 5*s.* per ton; rags, 8*s.* to 10*s.* per ton; glassware, 2*s.* 6*d.* to 3*s.* per cubic metre. To Savannah, Ga.—kainite, 9*s.* per ton.

TRADE WITH THE UNITED STATES.

The import of corn from American ports was rather brisk. The Stettin agency of the Hamburg Amerikanische Packetfahrt Actien Gesellschaft, of Hamburg, reports:

The steamers of the Stettin-New York line have also had a more regular traffic in 1890, completing their voyages without accidents. Following the general movement of the freight market, the rates from Stettin to New York underwent a decline compared with those of 1889. Goods, however, were brought up amply enough during the first 6 months, so as to furnish full cargoes. The number of voyages made in 1890 between Stettin and New York was seventeen, and the number of passengers taken (chiefly emigrants) reached the same figure as in the previous year, viz, 2,500. All these took passage by the Hamburg-American line. It may be of interest here to add that this is the only licensed passenger line from this port. Sailing vessels take no passengers.

TRADE AND COMMERCE OF STETTIN.

The import of goods into Stettin amounted in 1890 to 1,424,970 tons, against 1,384,048 tons in 1889 and 1,176,902 tons in 1888. Upon the whole, last year's trade did not fulfill the expectations which were at first entertained. A general increase of the prices of the necessaries of life was a remarkable feature of the year, which, giving an impetus to socialistic tendencies upon the one hand, served on the other to strengthen the minds of the

people for free-trade intercourse and to make even the Government disposed to more liberal views in national economy. The first effect of this showed itself in allowing cattle to be imported, and it is expected, from the negotiations which Germany has lately entered into with Austria in order to conclude a new commercial treaty, that the principles of commercial isolation now existing will be done away with.

Labor was well employed last year, suffering only from strikes, principally in the building trades, in which unscrupulous agitators fomented discontent.

The traffic in goods was a little more animated last year than in the 2 preceding years, though the grain trade suffered through a decrease in the supply. The same fact has been stated by the statistics of the German Empire, especially concerning rye. The remarkably large decrease shown in the export of rye from St. Petersburg is to be accounted for by the fact that St. Petersburg formerly sent large quantities of light rye to Berlin, which, not being deliverable, was reshipped to other places. The export of grain from Stettin last year was not very large.

The supplies of wheat, rye, barley, oats, peas, and rape seed at Stettin amounted in 1890 to about 216,000 tons, valued at about 35,000,000 marks, against about 257,000 tons, valued at about 42,000,000 marks, in 1889; 316,000 tons, valued at about 43,750,000 marks, in 1888; 344,000 tons, valued at about 43,000,000 marks, in 1887; 291,000 tons, valued at about 40,500,000 marks, in 1886; and 325,000 tons, valued at about 48,000,000 marks, in 1885.

The export of grain from Stettin amounted in 1890 to 12,220 tons of wheat, against 8,298 tons in 1889; 820 tons of rye, against 279 tons in 1889; 7,302 tons of barley, against 12,994 tons in 1889; 34 tons of oats, against 3 tons in 1889; 1,026 tons of peas, against 1,459 tons in 1889; 1,867 tons of beans, against 1,416 tons in 1889; and 6,298 tons of potatoes, against 5,071 tons in 1889.

The stock of wheat on December 31 amounted to 1,489 tons and the stock of rye to 344 tons.

IMPORTS.

Table showing the imports into Stettin from 1886 to 1890, inclusive.

Articles.	1886.	1887.	1888.	1889.	1890.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*
Palm oil	2,722	3,112	2,963	3,353	2,708
Cocoanut oil	562	481	745	493	441
Tallow	1,212	1,491	678	1,880	1,763
Talgolein	836	1,081	198	352	641
Lard	7,983	5,494	3,824	8,120	16,420
Linseed oil	4,025	4,007	3,126	3,252	2,461
Fish oil	2,065	1,926	2,000	2,343	2,815

The imports of cotton-seed oil by sea amounted in 1890 to 1,265 tons, against 372 tons in 1889 and 321 tons in 1888.

The stock of alcohol, of which a large quantity was exported to Spain during the first 6 months of 1890, amounted to about 5,000,000 litres. The price rose almost continually till the end of the year 1890, in consequence of unfavorable reports on the potato crop.

The import of petroleum amounted in 1890 to 244,279 barrels; 1889, 276,914 barrels; 1888, 318,595 barrels; 1887, 344,126 barrels. The import by sea amounted to 44,384 tons, of which 40,405 tons came from the United States, 3,973 tons from Bremen, and 3,137 tons from Russia. The stock at the end of 1890 amounted to 56,830 barrels; 1889, 41,533 barrels; 1888, 54,121 barrels; 1887, 30,761 barrels; 1886, 37,117 barrels.

The import of salted herring into Stettin was as follows:

Description.	1888.	1889.	1890.
	Barrels.	*Barrels.*	*Barrels.*
Scotch	292,105	338,745	371,560
Norwegian	130,571	164,600	132,816
Swedish	9,627	48,974	49,085
Dutch	11,620	9,447	6,471
French	1,137	2,210	.....
Bornholm	1,766	1,622	84
Total	446,816	565,596	560,016

It is gratifying to know that our California wines are gradually making their way into the German markets and receiving the recognition they deserve. They are not only highly recommended as table wines, but also as medicinal wines.

JAMES KELLOGG,
Consul.

UNITED STATES CONSULATE,
Stettin, August 19, 1891.

GOVERNMENT LOANS TO RUSSIAN FARMERS.

REPORT BY CONSUL-GENERAL CRAWFORD, OF ST. PETERSBURG.

In obedience to instructions from the Department, I have prepared the following report upon the system now in practice in Russia of making advances on farmers' grain stored in warehouses or delivered to officials of the several railroads of the country. Inasmuch as the rules and regulations touching this important question are not published for public distribution, I am indebted to the imperial ministry of finance for an official copy of the "Laws Governing Advances on Cereals on Account of the Imperial Bank of Russia," from which I have been courteously permitted to make the following summary for the use of the Department:

(1) Advances on grain may be made by any railway company authorized by the imperial ministry of finance.

(2) The amount to be advanced is in direct ratio to the prices current for cereals at the nearest market place, and must not exceed 60 per cent. of the value of the grain as thus estimated. In case the loan is granted for a period of 6 weeks or less, an advance of 80 per cent. of the estimated value may be obtained.

(3) The rate of interest on these loans is fixed by the Imperial Bank, and is usually 6 per cent., varying, however, a little from this rate according to the condition of the grain and the nature of the security. This interest is paid in advance and for the length of time it has been actually granted.

(4) In addition to the regular interest, as above stipulated, the borrower is charged: (*a*) 2 per cent. per annum for a sinking fund, but the percentage for the sinking fund must not exceed one-third of 1 per cent. of the total loan; (*b*) a sum not exceeding one-third of 1 per cent. as remuneration to the railway company for the trouble of negotiating the loan.

(5) Loans are granted usually for 6 months, or without fixing the time in advance; but loans may be made for a longer period, as the necessity of the case demands. In the latter case the loan must be settled not later than 1 year from the date thereof.

(6) The owners of the grain stored in the warehouses, or their legal representatives, are entitled, under the control of the railway company's agent, to inspect the grain from time to time and to take measures in order to protect the same from being damaged or to demand that such measures be taken by the railway company on their account. In case of need, the railway company may take these measures on account of the owner, without being requested by the latter, and charge the expenses thereof to the owner.

(7) The natural loss in weight resulting from the above operation is fixed by the regulations issued by a council of officials appointed by the several railway companies.

(8) The grain is returned by the railway company on repaying the advances made and other charges, as mentioned above.

(9) If the sum advanced is not repaid when due and there is no good reason to grant an extension, the grain is sold by the railway company at public auction.

(10) Such sale may be made imperative under the following circumstances and regulations: (*a*) If the stored grain shows signs of being irreparably damaged; (*b*) if the fear is entertained that the value of the grain stored in warehouses can not cover the charges for storage, the amount advanced, and other expenses. The receiver of the loan must, in all cases, be informed at least 7 days in advance of the date of sale.

(11) The railway company, after deducting the expenses of the public sale, covers all its own charges, *i. e.*, the amount advanced, charges for storage, and other charges allowed by the Government, before all other liabilities of the owner, even if he be bankrupt, can be recognized.

(12) Such railway companies as are authorized to make advances on grain are entitled (*a*) to grant loans from their own means not being previously

advanced by the Imperial Bank; (*b*) to build or hire warehouses for storing such grain for a period of 6 months, charging for storage a certain percentage, which is fixed for each depot by the ministry of ways and communications, not exceeding one-third of 1 copeck per pood per month, and to engage special agents for the purpose of selling grain on behalf of the owner, charging a commission therefor not exceeding 1 per cent. of the total amount received.

(13) The railway companies must bear the entire responsibility for the advances made on behalf of the Imperial Bank.

(14) If the amount due to the Imperial Bank is not paid in 7 days after the sale of the goods or within 7 days after the loan expires, the railway company must pay, besides the interest to the day of settlement, a fine of one-half of 1 per cent. a month for the amount overdue.

(15) The reserve fund, mentioned above, may be used, by permission of the ministries of ways and communications and of finances, as a gratuity to railway officials and to cover any loss sustained by the railway company in the operation of the loan.

(16) The railway company may make advances (*a*) on grain intended for transportation and on grain stored in warehouses at the starting point, charging for storage not more than one-third of 1 copeck per pood per month; (*b*) on grain received by the railway company for transport, whether stored or loaded upon the cars at once or not; (*c*) on grain arrived at the place of destination and stored there in warehouses until sold or consigned, the charges remaining in all cases the same.

(17) Advances can not be made on grain which is already hypothecated or upon which any unsettled charges whatever are resting.

(18) In fixing the highest percentage for advances on grain the prices current at the place of destination are taken as the basis of such calculation; provided, however, that such place of destination is a market place. In making such calculation the usual expenses of transportation are reckoned as a portion of the sum loaned. The highest advances which may be made by any depot and for any kind of grain are fixed by the respective railway companies, they in turn being responsible to the Imperial Bank.

(19) The charges mentioned in paragraph 4, viz, one-third of 1 per cent. of the sum advanced, are entirely put into the reserve fund of the respective railway companies and placed to the credit of the Imperial Bank. This one-third of 1 per cent. so advanced is thus divided: Two-thirds goes to the railway company at the starting point and one-third to the railway company at the place of destination for the management of the loan.

(20) When an advance is granted, an indorsement to that effect has to be made both on the railway note and its duplicate, mentioning the date on which the advance is made, the rate of interest, and other charges on the loan. Besides this, the receiver of the loan gives a special receipt for the money advanced either on grain which is intended for transport or which has been received to be stored in warehouses. When the loan is repaid, the receipt and other papers are returned to the borrower.

(21) In case of advances made at the place of destination, the railway companies are entitled to retain from the advance all their charges except those charged for the operation of the loan. An indorsement to this effect is made both on the railway note and on its duplicate.

(22) The officers of the different railway companies are compelled to inform the other companies, as well as the Imperial Bank, of the amount of grain received in warehouses at the different railway depots, as well as to advertise this fact in the local newspapers, that all may know when a given warehouse is full and unable to receive any more grain.

(23) The owner of grain which is intended for transport and is stored in warehouses may receive it back on demand on paying the usual fee for storage, viz, one-third of 1 copeck per pood per month, and on settlement of all legal claims relative thereto.

(24) If the owner of the grain wishes it warehoused at the place of its destination, he must declare such intention in advance, and an indorsement to that effect must be made on the railway note and its duplicate; provided, however, if the warehouses at the place of destination are full, such a request can not be granted.

(25) Cleaning, reshoveling, and screening of grain stored in warehouses must only be done under the supervision of the railway company. Before taking measures to prevent the warehoused grain from being damaged the railway company must inform the owner or his representative of the necessity of such action.

(26) Should the railway company be compelled to sell the hypothecated grain for reasons mentioned in paragraph 10, the order for the sale may be revoked if the advance, or a reasonable part of it, be repaid 7 days after the receipt of the notice of the intended sale.

In addition to the general rules governing this question, as enumerated above, I have learned that no distinction is made between farmers and so-called middlemen. The loans are made only on the grain, and it is of no consequence who delivers it and negotiates the loan.

All such loans are made in paper rubles, the regular and only real currency of this Empire, and these paper rubles are taken from the regular governmental issues.

This scheme went into effect on June 14–26, 1888, and at the present day it is generally adopted throughout the country, and business is carried on under it on a very large scale. I should also add that the scheme gives great satisfaction to the farmers, many of whom declare that it has been an essential feature of successful farming in Russia.

J. M. CRAWFORD,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
St. Petersburg, October 17, 1891.

INDIAN COTTON.*

REPORT BY VICE-CONSUL BODE, OF BOMBAY.

I have the honor to inclose herewith a report from the Times, of India, of July 23, 1891, on Indian cotton, its cultivation, management, and export, which, it appears to me, should be of special interest at this time to the cotton producers, manufacturers, and exporters of the United States.

H. E. BODE,
Vice-Consul.

UNITED STATES CONSULATE,
Bombay, July 31, 1891.

INDIAN COTTON.

[Inclosure in Vice-Consul Bode's report.]

The cotton season, which came to a close June 30, though it saw more cotton come into Bombay than in any year except its predecessor, can not be said to have been a satisfactory one. The native dealers were the principal sufferers. Owing to the enormous American crop, values in Europe gave way rapidly till they reached a lower level than had been seen for 40 years. The dealers in Bombay declined to believe in the huge crop reports from the United States, and, as it was pretty well known that several European shippers had sold largely in anticipation, prices throughout the season in Bombay were kept above the relative level of American, and Lancashire spinners, finding the American staple cheapest, naturally bought less Surats. The continental spinners being more dependent on the shorter staples, spinning, as they do, coarser counts of yarns, though buying less freely than last season, took a far larger proportion of the available supply than in any previous year. If we are to believe the statement of a section of the Liverpool Chamber of Commerce, the reduced takings by the trade of that city were entirely due to the adulteration of our staples during the last few years. Nothing was said regarding the size of the American crop, and if Messrs. Coke, Thorburn, and others of their way of thinking imagine for a moment that anyone outside of Liverpool is misled by their dogmatic statements, they are very much mistaken. We quite admit that last season a great deal of cotton was shipped to Liverpool and also to the Continent considerably adulterated, but so it had been for some years previously, and no steps had been taken to stop it by the infliction of heavy penalties. The fine imposed before last year only acted as an incentive to further fraud, for the unscrupulous shippers quickly found it better to ship mixed cotton and be fined than the genuine growth, which, because it was not equal to the mixed in appearance, was fined quite as much and sometimes more than the adulterated article. And why? Because the standards made up in Liverpool on which the arbitrators judged were themselves made of mixed growths. Last year the Liverpool association woke up and commenced to penalize severely the mixtures which, thanks to the premiums offered by themselves, had caused native shippers to send them. But they did not stop there, for thousands and thousands of bales of genuine cotton were thrown back on importers' hands as mixed because they did not reach the manufactured standards of the Liverpool association. Before last year discredit had been thrown on the professed knowledge of Liverpool arbitrators, not only by the trade in Bombay, but also on the Continent, and hence it was that the spinners

* For the better appreciation of the cotton trade of the several countries the following statement of the weight of cotton bales, as computed by the American consul at Barcelona (the great center of Spanish cotton manufacture), is given: American, 440 pounds; Indian, 280 pounds; Brazilian, 176 pounds; Levantine, 306 pounds.

outside of England began to insist on Bremen arbitration, and each year more and more Bombay cotton is submitted to the opinion of impartial critics in that German city, with the acquiescence of Bombay exporters. The Liverpool trade has a lesson to learn, but, from the remarks made at their chamber meeting on June 25, it is pretty evident that it will not be learned till the trade in Surats has left them and Bombay cotton will only reach the Lancashire spinners through the present city, but future port, of Manchester.

With these remarks, we propose to examine the statistics of the past season and compare them with recent years, expressing, as a preliminary, our thanks to the author of Indian Cotton Statistics for the figures which he has placed at our disposal:

Table showing the receipts of cotton at Bombay for the years 1871–'72 to 1890–'91, inclusive.

Year.	Quantity.	Year.	Quantity.
	Bales.		*Bales.*
1871–'72	1,151,000	1881–'82	1,832,000
1872–'73	978,000	1882–'83	1,770,000
1873–'74	1,311,000	1883–'84	1,759,000
1874–'75	1,345,000	1884–'85	1,139,000
1875–'76	1,073,000	1885–'86	1,480,000
1876–'77	1,141,000	1886–'87	1,703,000
1877–'78	961,000	1887–'88	1,472,000
1878–'79	832,000	1888–'89	1,851,000
1879–'80	1,171,000	1889–'90	2,238,000
1880–'81	1,244,000	1890–'91	2,020,000

The average receipts in the first 10 years were 1,120,700 bales and in the second 10 years 1,726,400 bales, an increase of 605,700 bales per annum. Just 30 years ago Bombay, for the first time, exported 1,000,000 bales, while the local mill consumption did not exceed 35,000 bales, so that the trade may be said to have doubled itself in that period. To see where the increase has principally taken place, it is necessary to examine the various growths of cotton which have been received and compare them with the average receipts from 1884 to 1888.

Table showing the receipts at Bombay of the various growths of cotton in 1890–'91, as compared with the 4 previous years.

Growths.	1890–'91.	1889–'90.	1888–'89.	1887–'88.	1886–'87.	Average.
Oomras:	*Bales.*	*Bales.*	*Bales.*	*Bales.*	*Bales.*	*Bales.*
Berars	428,000	425,000	409,000	202,000	326,000	246,000
Khandeish	360,000	293,000	299,000	212,000	282,000	193,000
Bursee and Nagar	155,000	171,000	158,000	86,000	92,000	83,000
Total	943,000	889,000	866,000	500,000	700,000	522,000
Hinghenghaut	22,000	28,000	26,000	1,000	20,000	12,000
Broach	181,000	241,000	143,000	105,000	109,000	133,000
Dhollera	369,000	445,000	303,000	342,000	373,000	402,000
Coomptah and Dharwar	122,000	141,000	142,000	185,000	142,000	131,000
Bengals	316,000	393,000	292,000	222,000	279,000	221,000
Westerns	20,000	20,000	25,000	37,000	24,000	32,000
Sind	28,000	46,000	30,000	64,000	39,000	36,000
Persian	18,000	33,000	23,000	16,000	17,000	15,000
Other sorts	1,000	2,000	1,000	.....	.....	1,000
Grand total	2,020,000	2,238,000	1,851,000	1,472,000	1,703,000	1,505,000

Compared with the unprecedentedly large crop of the preceding season, the receipts in the one just closed fell off 218,000 bales, equal to 9¾ per cent., but they exceeded the average by 515,000 bales, or over 34 per cent. In comparison with the former, Hinghenghaut declined

6,000 bales, equal to 21½ per cent.; Broach, 60,000 bales, or 25 per cent.; Dholleras, 76,000 bales, or 17 per cent.; Coomptahs and Dharwars, 19,000 bales, or 13½ per cent.; Bengals, 77,000 bales, or 19½ per cent.; Sind, 18,000 bales, or 40 per cent.; and Persian, 15,000 bales, or nearly 46 per cent. On the other hand, Oomras show an increase of 54,000 bales, or over 6 per cent. That grown partly in this presidency, in the neighborhood of Bursee and Ahmednuggur, but principally in the adjoining native states, fell off 16,000 bales, or 9⅓ per cent., while the increase from the Berars was only 3,000 bales, or, say, three-fourths of 1 per cent. The actual increase was in Khandeish, where the largest crop ever grown was secured; the increase on the preceding season—up to that time the maximum crop—was 67,000 bales, or 20½ per cent.

We commend these figures to the notice of Mr. James and those who side with him in the belief that the introduction of a short-stapled cotton into a district means a serious loss of revenue to the Government, and that the ryot requires the fatherly intervention of well-meaning, but ignorant, enthusiasts. The prevailing idea in Lancashire from all time has been to induce the natives to grow long-stapled cotton, because pound for pound it brought relatively more money, and the merchants in India backed up the advice. Within the present decade, with evidence before them showing that the short-stapled varieties produced a far larger yield, local opinion has changed, and the trade admits, what the American planters who were brought to India to teach the "ignorant ryots" 50 to 60 years ago admitted, that the latter knew a great deal more about his business than they did. Liverpool, in her ignorance, declines to believe in what is beneficial to the ryot, and, looking only to her own interests, says if an increase in the short-stapled varieties is encouraged a time will come when it will not be required. The time has come, so far as she is concerned, for in the past 12 months Great Britain has received but 115,000 bales from Bombay of the 1,900,000 bales which have been exported or gone into local consumption, or, say, 6 per cent., and the principal demand has been, and continues, for the shorter rather than the longer stapled varieties.

We annex the exports in the past 11 years to Europe only:

Table showing the exports of cotton to Europe.

Years.	United Kingdom.	Continent.	Total.
	Bales.	*Bales.*	*Bales.*
1880–'81	287,000	586,000	873,000
1881–'82	828,000	694,000	1,522,000
1882–'83	513,000	822,000	1,335,000
1883–'84	577,000	719,000	1,296,000
1884–'85	267,000	524,000	791,000
1885–'86	321,000	687,000	1,008,000
1886–'87	397,000	750,000	1,147,000
1887–'88	234,000	659,000	893,000
1888–'89	386,000	900,000	1,286,000
1889–'90	370,000	1,118,000	1,488,000
1890–'91	115,000	955,000	1,070,000

Compared with the preceding season, the exports in the past one show a falling off of 418,000 bales, or 28 per cent. To the Continent of Europe, of the total exports westward over 89 per cent. were sent, while Great Britain received but 11 per cent. The shipment to the former marks a decline of 14½ per cent. and to the latter no less than 69 per cent.

The following table gives the exports to each European port in each half year of the last two seasons. In the 9 years preceding the last season the average shipments to Liverpool were 349,000 bales; in the past season the total was only 106,000 bales, a decrease from its predecessor of 238,000 bales. London, till 2 years ago, annually received about 100,000 bales, the bulk for reëxport. Last year the starting of the Hansa line for Hamburg reduced our ship-

ments to the Thames to 25,000 bales and in the past 12 months to just 8,000 bales. Naturally, with reduced exports to the tune of 8 and 20 per cent., but few ports show any increase in the past season. The principal exception is Hamburg. Five years ago, we see in Indian Cotton Statistics, less than 1,000 bales were sent via Hull to this port. Two years later the total exceeded 12,000 bales, rose in the following year to nearly 55,000 bales, then to over 144,000 bales, and last season to nearly 176,000 bales. Ghent took 50 per cent. more, Barcelona 19 per cent. more, and Marseilles, Dunkirk, and Greece a little more. The principal ports to which there was a decrease were Antwerp, Havre, Trieste, Venice, Genoa, Odessa, Bremen, and Naples.

Table showing the exports of cotton from Bombay to the ports of Europe in 1889–'90 and 1890–'91.

Ports.	1889–'90.			1890–'91.		
	First 6 months.	Last 6 months.	Total.	First 6 months.	Last 6 months.	Total.
United Kingdom:	*Bales.*	*Bales.*	*Bales.*	*Bales.*	*Bales.*	*Bales.*
Liverpool	30,432	313,854	344,286	18,238	88,122	106,360
London	14,958	10,440	25,398	2,153	5,853	8,006
Hull	.....	210	210	.....	220	220
Total United Kingdom	45,390	324,504	369,894	20,391	94,195	114,586
Continent:						
Marseilles	2,650	8,751	11,401	3,160	9,786	12,956
Havre	6,303	124,064	130,367	3,480	81,823	85,303
Dunkirk	6,576	44,290	50,866	3,775	47,910	51,685
Antwerp	44,021	210,092	254,113	27,423	160,789	188,212
Ghent	200	9,513	9,713	.....	15,600	15,600
Amsterdam	.....	160	160	.....	.....	.....
Bremen	110	18,537	18,647	1,568	9,682	11,250
Hamburg	1,961	142,555	144,516	8,246	167,489	175,735
Barcelona	1,150	12,250	13,400	1,400	15,100	16,500
Genoa	24,205	107,887	132,092	17,651	96,847	114,498
Naples	5,310	14,750	20,060	6,203	9,850	16,053
Venice	12,369	75,285	87,654	11,304	53,696	65,300
Leghorn	200	2,700	2,900	.....	1,910	1,910
Trieste	24,259	187,166	211,425	21,426	161,622	183,048
Piræus	10	700	710	.....	1,150	1,150
Odessa	200	24,930	25,130	660	12,620	13,280
Gothenburg	500	3,350	3,850	400	2,000	2,400
Christiania	.....	.....	.....	.....	100	100
Stockholm	.....	.....	.....	.....	200	200
Bergen	.....	50	50	.....	.....	.....
Norkoping	.....	1,100	1,100	.....	200	200
Nyköping	.....	200	200	.....	200	200
Total Continent	130,024	988,330	1,118,354	106,696	848,884	955,580
Grand total	175,414	1,312,834	1,488,248	127,087	943,079	1,070,166

The clearances to Calcutta and coast ports and to China and Japan were larger than in any year of the present decade, mainly due to the increasing demand from Japan, the total shipments reaching 108,000 bales, as compared with 71,000 bales and 46,000 bales in the two preceding seasons.

The consumption of the local mills continues to increase very fast, the figures in the past 10 years showing an increase of over 156 per cent.

Total exports from, and mill consumption of, Bombay since 1881–'82.

Years.	Exports.	Mill consumption.	Total.
	Bales.	*Bales.*	*Bales.*
1881–'82	1,610,000	277,000	1,887,000
1882–'83	1,430,000	313,000	1,743,000
1883–'84	1,396,000	348,000	1,744,000
1884–'85	861,000	392,000	1,253,000
1885–'86	1,069,000	391,000	1,460,000
1886–'87	1,187,000	454,000	1,641,000
1887–'88	951,000	500,000	1,451,000
1888–'89	1,332,000	565,000	1,897,000
1889–'90	1,559,000	636,000	2,195,000
1890–'91	1,178,000	*710,000	1,888,000

* Estimated.

This leaves a stock in the hands of the dealers at Colaba, as estimated by themselves, of 235,000 bales and with the mills 220,000 bales, or just 3½ months' supply, which is not far from the estimates we gave a month ago.

We annex our annual statement showing the leading exporters to Europe of Bombay cotton and their exports for 1890–'91:

Exporters.	First 6 months.	Last 6 months.	Total.
	Bales.	*Bales.*	*Bales.*
Gaddum, Bythell & Co	9,110	202,149	211,259
Ralli Bros	19,745	146,437	166,182
Volkart Bros	17,766	100,938	118,704
F. Sauquet & Co	6,626	60,431	67,057
Lyon & Co	5,772	56,076	61,848
E. Spinner & Co	5,378	51,447	61,825
Glade & Co	10,152	51,336	61,488
George Lockhart & Co	5,555	41,130	46,685
Bombay Company (limited)	3,846	37,463	41,309
A. Blascheck & Co	4,230	32,888	37,118
Dürst & Co	3,400	22,936	26,336
Ernthausen & Co	3,063	23,015	26,078
David Sassoon & Co	4,919	19,019	23,938
A. Sabapathy Moodlier & Co	10,951	11,067	22,018
Killick, Nixon & Co	2,749	18,262	21,011
T. H. Moore & Co	786	20,148	20,934
Tod, Durant & Co	688	11,321	12,009
Ritchie, Steuart & Co	677	6,223	6,900
T. G. Young & Co	440	5,880	6,320
Finlay, Muir & Co	220	6,013	6,233
15 European shippers of less than 5,000 bales each	5,949	13,376	19,145
Native shippers	5,065	5,524	10,589
Total	127,087	943,079	1,070,166

In all, thirty-five European firms were engaged in the trade, but over 81 per cent. of the shipments were made by the first ten names on the above list.

HONDURAS AND HER CONSTITUTION.

REPORT BY CONSUL PETERSON, OF TEGUCIGALPA.

The status of both citizens and foreigners in Honduras is clearly set forth in the following leader from the Honduras Mining Journal:

HONDURAS AND HER CONSTITUTION.

Honduras is one of the five sections of Central America. It is a free, sovereign, and independent Republic. The government is democratic, representative, and responsible. It is divided into three powers—the legislative, executive, and judicial.

The legislative power resides in a Congress, which holds biennial sessions at Tegucigalpa, the capital of the Republic, and generally meets from the 1st to the 15th of January. It is composed of thirty-seven deputies, who are elected for a period of 4 years.

The executive power is vested in a President, who governs the Republic through the medium of six ministers. He and the ministers are responsible to Congress for the acts of his administration. The President holds office for a term of 4 years.

The judicial power is divided into a supreme court, two courts of appeal, courts of letters in each department, and justices' courts in each municipality. The military court has special judges.

The Republic is divided into thirteen departments which are: Tegucigalpa, El Paraiso Choluteca, Olancho, Yoro, Colon, Bay Islands, Santa Barbara, Copan, Gracias, Intibuca, La Paz, and Comayagua.

Each department is administered by a governor, a military commandant, and a judge of letters. It is formed of various municipalities, which possess certain rights, and are commanded by a subcommandant. A justice of the peace is the highest municipal judicial authority.

The capital of the Republic is Tegucigalpa.

Each capital of a department and the principal towns and villages have post-offices.

The capital is connected with the principal cities of the Republic by 1,595 miles of telegraph wire. There are 85 telegraph offices.

The Honduranean constitution professes the most advanced principles of liberty.

Every native or naturalized Honduranean is free to profess, both privately and publicly, the religion he desires; the Government acknowledges no official religion. There is no censorship over the press. Every one can follow the profession or industry he chooses, and may go from one Republic to the other without passports. One may dispose of his property as he sees fit. The constitution grants no privileges of caste; before the law all are equal. All citizens, except criminals, may fill public positions. Both natives and foreigners are equal before the civil law.

One year's residence in Honduras entitles foreigners to naturalization, to-wit: Colonists who occupy lands in Indian neighborhoods or in unsettled districts, all who inaugurate important works of general utility, those who bring fortunes into the country, all who introduce useful inventions into the Republic, and all who procure naturalization papers from the proper authorities.

All Honduraneans, both natives and naturalized foreigners, who have professions, income, means of support, or property, and all natives or naturalized foreigners of the age of 18 who are married and who can read and write are citizens at the age of 21.

The constitution guaranties all Honduraneans inviolability of life, individual security, equality, and property.

The constitution guaranties the right of habeas corpus. The privileges of self-defense is inviolable. Torture is abolished forever. Precautions and restrictions that are not absolutely necessary for the security of prisoners are prohibited.

The domestic hearth is inviolable. Correspondence (epistolary), telegraphic messages, private papers, and books used in commerce are inviolable.

No inhabitant shall be molested for the expression of his opinions, no matter of what nature they may be, if such opinions infringe no law; nor for any act that does not disturb the public peace.

Police regulations are exercised solely by the civil authorities.

No one may be deprived of his property except by course of law or by sentence of law. Execution for public benefit must be certified by law or by sentence founded in law, but in no case without indemnification. Confiscation is abolished forever.

Each author or inventor has the sole right to his work or invention.

No foreigner shall be entitled to more privileges than any other, but all possess the same civil rights as native Honduraneans. Foreigners may, in consequence, buy, sell, locate, exercise arts and professions, possess all kinds of property, and dispose of it in the form prescribed by law; enter the country and leave it with their property, and frequent the ports with their ships and navigate the rivers of the Republic. They are exempt from extraordinary contributions and are guarantied entire liberty in commerce. They may construct temples and churches or establish cemeteries in any part of the Republic. Their marriage contracts shall not be invalidated, if not in conformity with certain religious beliefs, if they have been legally celebrated. They are not obliged to become naturalized. They may vote for public officers according to law, which in no case excludes them on account of their origin.

The public is governed by and through its own laws, which are codified, and are the peer of those of the most civilized nations on earth.

The Government of Honduras is very liberal in her grants when the grantee, in good faith, will introduce new enterprises and bring in capital.

While it is foreign to the subject, I wish to add that the great drawback to the national development of the Republic of Honduras is her lack of means of transportation. The Government is building wagon roads, however, as rapidly as it is able to do so. The work of building the wagon road which is projected from Amapala, or rather La Brea, on the south coast, to San Pedro Sula, near the northwest coast, is going on, the work being prosecuted near the town of Santa Barbara, which is located about 75 miles from San Pedro Sula, the terminus on the north.

JAMES J. PETERSON.
Consul.

UNITED STATES CONSULATE,
Tegucigalpa, May 26, 1891.

LAKE MANAGUA TRAFFIC.

REPORT BY CONSUL NEWELL, OF MANAGUA.

One has but to glance at the table appended to this article to find evidence of the great increase in the trade of Nicaragua. This table, however, shows only such freight as has been received at Corinto, and that is necessary to be transported across Lake Managua. The table covers freight exported as well as imported.

The steamers plying upon the lake originally belonged to a private company; but the Government saw the necessity, on account of its railroad,

of owning them, thus affording it a through connection from Corinto to Granada.

At the time of the purchase of the line there were three steamers, the *Progreso*, *Amelia*, and *Isabel*, the last two named being quite small. On account of the augmentation of trade, a fourth steamer was built, known as the *Managua*.

The *Managua* is a steam propeller of 126 feet in length and 23 feet breadth, and is capable of making 11½ knots an hour. It soon became apparent to the Government that, in order to keep pace with their fast-increasing trade, it was necessary to have an additional steamer. At once one was ordered, and a short time since was launched, and bears the name of *Angela*. The *Angela* is a sister steamer to the *Managua*. It is now thought that the three large steamers and two small ones will be able to handle the freight so that it will be unnecessary for it to be detained long, as it was in the past, in the warehouses at Corinto and Momotombo.

The table appended gives the amount of cargo transported by the Lake Managua steamers during the space of 6 months, from January 1 to June 30 of the current year.

Table showing the amount of cargo transported by the national steamers from January 1 to June 30, 1891.

Months.	Cargo.	Months.	Cargo.
	Pounds.		*Pounds.*
January	2,140,519	May	6,080,906
February	3,306,632	June	6,413,803
March	4,248,972	Total	28,042,339
April	5,851,507		

The following statement shows the comparison of the cargoes transported for the first 6 months of 1890 and 1891:

	Tons.
1891	14,021
1890	6,970⅓
Difference in favor of 1891	7,050⅔

WILLIAM NEWELL,
Consul.

UNITED STATES CONSULATE,
Managua, August 7, 1891.

CONSULAR REPORTS

ON

COMMERCE, MANUFACTURES, ETC.

No. 134.—NOVEMBER, 1891.

FOREIGN TRADE OF JAMAICA.

REPORT BY CONSUL ESTES, OF KINGSTON.

I have the honor to transmit herewith the returns from the collector of customs showing the imports and exports of this island for the fiscal year ended March 31, 1891. I am indebted to Mr. Charles Goldie, acting collector-general, for the advance sheets of these returns before they are given to the public here. The last return published was for the year ended September 30, 1889, the ending of the fiscal year having since been changed from October 1 to April 1. Thus comparisons made between the returns of 1889 and 1891 should be understood.

IMPORTS.

The general imports into the island show an increase over those of 1889 of 37.8 per cent.; those from the United Kingdom, 39.8 per cent.; from the United States, 38.3 per cent.; and from Canada, 12.7 per cent. Imports from France have increased from $1,331.96 in 1889 to $22,435.79 in 1891, those from Germany from $4,245.85 to $30,198.75 during the same time, and those from Colombia from almost nothing to $91,568.06. Of this latter amount $90,877.01 are beef cattle, an industry that has opened up within the last 18 months.

Goods from the United States, amounting in value to $3,554,125.35, pay $853,915.87 in duty, or 23.2 per cent., which is 46.2 per cent. of the duty collected on all goods imported into the island; goods from the United Kingdom, amounting in value to $5,847,028.51, pay only $774,859.14 in duty, or 12.9 per cent., which is 42.8 per cent. of the duty collected on all the imports. The following table shows the comparison between the im-

ports from the United States and the United Kingdom, as entered according to duty:

Description.	United States.	United Kingdom.
Entered free	$469,298.94	$595,753.19
Ad valorem duty (12½ per cent)	638,846.54	4,142,534.98
Specific duty	2,442,153.53	821,852.20

The amount admitted free from the United States this year is much larger than in 1889, because the material for the exhibition building, the material and furnishings for hotels subsidized by the Government, and all the material for constructing and operating the railroad is admitted free. The railroad being now in the hands of a New York syndicate, its trade with the United States has naturally increased. Thus it will be seen that, without there being any differential duties enforced against the United States in favor of the United Kingdom, the tariff is so adjusted as to make the goods coming from the United States, which represent 33 per cent. of the imports, pay 46 per cent. of the duty, while the goods from the United Kingdom, representing 56 per cent. of the total imports, pay only 42 per cent. of the duty. Whether this is "reciprocally unequal and unreasonable" it is not for me to say.

The following table will show a few of the articles that contribute literally to the revenue of this island. The first column of figures represents the total amount of the article imported, the second column the quantity coming from the United States, and the last column the total amount of duty collected on that article:

Articles.	Imports.		Duties collected.
	Total.	From the United States.	
Salt beef ... pounds	8,447	8,444	$30,832.55
Bread and biscuits ... do	1,690,342	1,688,244	24,678.14
Butter ... do	753,938	699,088	30,575.34
Cheese ... do	298,859	268,302	11,755.00
Corn ... bushels	212,898	212,868	17,267.80
Flour ... barrels	173,312	173,261	337,370.55
Kerosené oil ... gallons	595,162	595,158	108,613.33
Lumber:			
Pitch pine ... feet	6,262,051	6,226,481	19,808.27
White pine ... do	7,850,086	6,454,940	17,191.08
Cypress shingles ... number	5,471,393	5,436,769	7,988.05

Notwithstanding the discriminating duties, the trade shows a healthy increase in goods from the United States. This also indicates that the Jamaicans are requiring, year by year, more of our food products per capita, and that, under a reasonable and equitable tariff, the consumption of the articles

named in the above table would very soon double. I can not, however, refrain from expressing a regret that the United States does not supply a greater percentage of cotton goods, boots and shoes, furniture, glassware, groceries, watches, clocks, jewelry, condensed milk, and stationery. There seems to me to be no good reason why trade in these goods could not be greatly increased if properly handled.

Table showing the imports into Jamaica for the year ended March 31, 1891.

Articles.	Duty.	Whence imported.	Quantity.	Value.
Aërated waters	12½ per cent	United Kingdom.....doz.	33,158	$30,341.08
		United States.....do.	2,458	2,490.57
		Total.....do.	35,616	32,831.65
Ale, beer, and porter	12 cents per gallon	United Kingdom.....gals.	251,965	214,582.83
		United States.....do.	9,230	7,860.89
		Canada.....do.	23,899	20,352.85
		Germany.....do.	1,632	1,389.72
		British West Indies....do.	2,377	2,024.62
		Foreign states.....do.	1	.60
		Total.....do.	289,104	246,211.51
	Free, army and navy	United Kingdom.....do.	9,360	3,781.26
	Free, R. C. C.	.....do.....do.	106	48.15
Ammunition:				
Cartridges	12½ per cent	.....do.....No.	143,000	2,047.64
		United States.....do.	27,700	1,012.60
		Total.....do.	170,700	3,060.24
Gun cotton and detonators	.....do.	United Kingdom	.....	1,166.49
	Free, R. C. C.	.....do.	.....	2,282.99
Percussion caps	12½ per cent	.....do.....No.	1,958,600	1,637.06
		United States.....do.	2,000	2.94
		Total.....do.	1,960,600	1,640.00
	Free (law 12 of 1889)	United States.....do.	74,000	513.25
Safety fuse	12½ per cent	United Kingdom	.....	1,092.89
		British West Indies	.....	3.58
		Total	.....	1,096.47
	Free, R. C. C.	United Kingdom.....pkgs.	100	777.21
	Free, (law 12 of 1889)	United States.....do.	4	131.39
Shot and shell	12½ per cent	United Kingdom.....cwts.	351	1,546.74
Ambulances and accessories	Free, R. C. C.	.....do.....pkg.	1	97.57
Arms:				
Guns, rifles, etc.	12½ per cent	.....do.....No.	244	1,900.87
		United States.....do.	105	1,179.35
		Total.....do.	349	3,080.22
	Free, R. C. C.	United Kingdom.....do.	2	102.44
Swords, cutlasses, etc.	12½ per cent	.....do.....doz.	2,982	4,335.21
Art works other than pictures	Free	United States.....pkgs.	3	18.00
		Foreign states.....do.	1	38.93
		Total.....do.	4	56.93

Table showing the imports into Jamaica for the year ended March 31, 1891—Continued.

Articles.	Duty.	Whence imported.	Quantity.	Value.
Chemical products	12½ per cent	United Kingdom		$4,965.89
		United States		1,579.50
		Canada		12.16
		Total		6,557.55
	Free (law 12 of 1889)	United States ... pkgs	1	18.69
	Free, R. C. C.	United Kingdom ... do	111	2,993.48
Cider and perry	12 cents per gallon	... do ... gals	86	68.86
		United States ... do	454	275.84
		Total ... do	540	344.70
Clocks and watches	12½ per cent	United Kingdom		6,184.05
		United States		3,219.51
		Canada		30.41
		Haiti		29.19
		Foreign West Indies		7.79
		Foreign states		10.21
		Total		9,481.16
	Free, R. C. C.	United Kingdom ... pkg	1	31.63
		United States ... do	1	201.57
Clothing:				
Ready made	12½ per cent	United Kingdom		164,347.50
		United States		5,466.57
		Canada		2,314.20
		British West Indies		918.97
		Germany		3,866.81
		France		1,006.63
		Haiti		6.81
		Foreign states		978.45
		Total		181,107.31
	Free, R. C. C.	United Kingdom ... pkgs	104	7,313.04
		United States ... do	18	301.03
		Total ... do	122	7,614.07
	Free (law 19 of 1890)	United Kingdom ... do	3	778.64
Old and in use	Free	... do ... do	1	9.73
		Germany ... do	2	145.99
		Foreign states ... do	4	17.52
		Total ... do	7	173.24
Coal and coke	... do	United Kingdom ... tons	42,026	153,389.09
		United States ... do	3,659	13,355.36
		Canada ... do	404	1,475.28
		British West Indies ... do	10	36.50
		Total ... do	46,099	168,256.23
Cocoa	$2.43 per 100 pounds	British West Indies ... lbs	3,385	330.92
Cocoanuts	Free	... do ... No	179,000	2,464.88
		Foreign West Indies ... do	39,730	866.04
		Total ... do	218,730	3,330.92
Cocoanut fibre	... do	United Kingdom ... pkg	1	51.09

Table showing the imports into Jamaica for the year ended March 31, 1891—Continued.

Articles.	Duty.	Whence imported.	Quantity.	Value.
Coffee, British colonial	Free	United States ... lbs.	49	$10.58
		British West Indies ... do	3	.73
		Total ... do	52	11.31
Cordage and ropes of hemp	12½ per cent	United Kingdom		15,324.40
		United States		9,660.19
		Canada		2,060.47
		British West Indies		189.18
		Total		27,234.24
	Free (law 12 of 1889)	United States ... pkgs.	53	826.45
	Free, R. C. C.	United Kingdom ... do	17	514.50
Corn	8 cents per bushel	United States ... bush.	212,868	155,387.31
		Foreign states ... do	30	21.90
		Total ... do	212,898	155,409.21
Cotton, manufactured	12½ per cent	United Kingdom		1,412,664.90
		United States		39,755.10
		Canada		496.38
		British West Indies		7,520.99
		France		215.77
		Germany		4,071.85
		Switzerland		14.21
		Haiti		548.94
		Foreign states		615.37
		Total		1,465,903.51
	Free (law 12 of 1889)	United States ... pkgs.	8	354.46
	Free (law 27 of 1890)	United Kingdom ... do	14	2,335.47
	Free, R. C. C.	... do ... do	2	266.44
Diamonds	Free	... do ... do	2	43.31
Diving apparatus	Free, R. C. C.	United States ... do	3	535.61
Drawings, paintings, etc	Free	United Kingdom ... do	74	2,685.82
		United States ... do	72	871.93
		British West Indies ... do	1	4.38
		France ... do	1	7.29
		Haiti ... do	1	1.21
		Foreign states ... do	1	9.73
		Total ... do	150	3,580.36
Drugs and medicines	12½ per cent	United Kingdom		66,695.30
		United States		31,284.73
		Canada		5,032.75
		British West Indies		7.29
		France		709.57
		Haiti		11.92
		Foreign states		70.96
		Total		103,812.52
	Free (law 12 of 1889)	United States ... pkgs.	4	46.17
	Free, R. C. C.	United Kingdom ... do	228	4,900.34

Table showing the imports into Jamaica for the year ended March 31, 1891—Continued.

Articles.	Duty.	Whence imported.	Quantity.	Value.
Earthenware and china ware...	12½ per cent.....	United Kingdom.....	.....	$45,570.73
		United States.....	.....	2,785.07
		Canada.....	.....	10.21
		British West Indies.....	.....	2.43
		France.....	.....	724.55
		Germany.....	.....	15.57
		Haiti.....	.....	2.43
		Foreign states.....	.....	524.84
		Total.....	.....	49,635.83
	Free (law 27 of 1890)..	United Kingdom.....pkgs..	18	690.68
		United States.....do...	14	97.75
		Total.....do...	32	788.43
	Free, R. C. C.....	United Kingdom.....do...	7	592.17
Eggs.....	12½ per cent.....	United States.....	.....	775.14
Booby.....	Free.....	British West Indies....No..	86,000	583.98
Farinaceous substances.....	12½ per cent.....	United Kingdom.....	.....	4,918.36
		United States.....	.....	7,658.26
		Canada.....	.....	1,149.30
		British West Indies.....	.....	1,402.70
		Germany.....	.....	1,534.69
		Foreign West Indies.....	.....	11.67
		Colombia.....	.....	58.40
		Haiti.....	.....	1.46
		Foreign states.....	.....	24.16
		Total.....	.....	16,759.00
Fire clay.....	Free.....	United Kingdom.....	.....	99.22
		United States.....	.....	8.76
		Total.....	.....	107.97
Fish:				
Dried or salted.....	85 cents per 100 lbs.....	United Kingdom.....lbs..	1,237	57.18
		United States.....do...	1,824,903	84,368.45
		Canada.....do...	11,067,276	511,659.52
		British West Indies..do...	2,500	115.58
		Total.....do...	12,895,916	596,200.73
	Free (law 19 of 1890)..	United States.....do...	100	4.86
Alewives, pickled.....	60 cents per barrel.....	.....do.....bbls..	1,449	7,053.99
		Canada.....do...	8,646	42,075.76
		Total.....do...	10,095	49,129.75
Herrings—				
Pickled.....	.....do.....	United Kingdom.....do...	8	31.63
		United States.....do...	3,417	14,410.92
		Canada.....do...	28,810	121,510.44
		Foreign states.....do...	102	432.30
		Total.....do...	32,337	136,385.29
Smoked.....	.....	United States.....lbs..	73,181	4,451.69
		Canada.....do...	128,223	7,799.96
		British West Indies...do...	100	6.08
		Total.....do...	201,504	12,257.73

Table showing the imports into Jamaica for the year ended March 31, 1891—Continued.

Articles.	Duty.	Whence imported.	Quantity.	Value.
Fish—Continued.				
Mackerel, pickled	$1.09 per barrel	United States.....bbls.	249	$2,422.05
		Canada.....do...	1,257	12,236.77
		Total.....do...	1,506	14,658.82
Salmon—				
Pickled	$2.55 per barrel	United Kingdom.....do...	4	59.36
		United States.....do...	150	2,224.41
		Canada.....do...	650	9,645.98
		Total.....do...	804	11,929.75
Smoked	4 cents per pound	United States.....lbs.	819	142.10
		Canada.....do...	36	4.86
		Total.....do...	855	146.96
N. E.—				
Pickled	$1.09 per barrel	United States.....bbls.	17	31.57
		Canada.....do...	37	374.47
		Total.....do...	54	406.04
Smoked	28 cents per pound	United States.....lbs.	114	6.08
		Canada.....do...	100	1.94
		Total.....do...	214	8.02
Fresh	Free	United States.....pkgs.	24	73.79
Preserved, other than by salting.	12½ per cent	United Kingdom		37,545.40
		United States		11,569.61
		Canada		1,693.54
		France		1,132.76
		Foreign states		6.33
		Total		51,947.64
Flags	.....do	United Kingdom		62.82
		United States		986.88
		Total		1,049.70
	Free, R. C. C.	United Kingdom.....pkgs.	3	106.57
Flour, wheat	$1.94 per barrel	United States.....bbls.	173,262	885,335.49
		Canada.....do...	47	240.16
		British West Indies...do...	3	16.60
		Haiti.....do...	1	5.10
		Total.....do...	173,313	885,597.35
	Free, army and navy	United States.....do...	1,091	5,362.88
	Free (law 19 of 1890)	.....do.....do...	6	31.14
	Free, R. C. C.	.....do.....do...		4.25
Fruit:				
Fresh apples	Free	.....do.....bush.	968	1,432.79
		Canada.....do...	127	117.04
		Total.....do...	1,095	1,549.83
Grapes	.....do	United Kingdom.....pkgs.	1	5.47
		United States.....do...	21	109.41
		Total.....do...	22	114.88

Table showing the imports into Jamaica for the year ended March 31, 1891—Continued.

Articles.	Duty.	Whence imported.	Quantity.	Value.
Fruit—Continued.				
Peaches	Free	United States.....pkgs.	1	$48.66
Pears	do	do.....do	2	77.86
Other sorts	do	do.....do	19	120.69
Furniture:				
Metal	12½ per cent	United Kingdom		8,097.56
		Foreign states		514.38
		United States		4,431.85
		Total		13,043.79
	Free (law 27 of 1890)	United Kingdom.....pkgs.	24	416.44
Wood	12½ per cent	do		17,312.55
		United States		20,206.60
		Canada		638.62
		British West Indies		18.73
		British East Indies		1,084.43
		Germany		991.99
		Foreign West Indies		35.76
		Haiti		562.57
		Foreign states		1,013.04
		Total		41,864.29
	Free	United Kingdom.....pkgs.	139	9,464.42
		United States.....do	787	10,572.15
		Total.....do	926	20,036.67
Furniture and effects, old and in use.	do	United States.....do	4	73.00
Garlic	do	United Kingdom.....do	680	68.92
		United States.....do	2,515	356.46
		Total.....do	3,195	425.38
Glassware	12½ per cent	United Kingdom		20,846.14
		United States		12,519.51
		Canada		172.05
		Germany		1,663.15
		British West Indies		1.58
		Belgium		198.08
		Total		35,400.51
	Free	United States.....pkgs.	31	304.16
	Free, R. C. C.	United Kingdom.....do	16	737.27
		United States.....do	7	202.16
		Total.....do	23	939.43
Goods returned and repaired	Free	United Kingdom.....do	2	98.54
		United States.....do	4	311.76
		Total.....do	6	410.30
Grease and tallow	do	United Kingdom.....lbs.	34,338	1,670.48
		United States.....do	49,087	2,035.58
		Total.....do	83,425	3,706.06

Table showing the imports into Jamaica for the year ended March 31, 1891—Continued.

Articles.	Duty.	Whence imported.	Quantity.	Value.
Groceries and confectionery.....	12½ per cent.....	United Kingdom.....	.....	$121,398.32
		United States.....	.....	51,835.76
		Canada.....	.....	1,111.36
		Germany.....	.....	1.21
		British West Indies.....	.....	2,214.86
		France.....	.....	1,341.69
		Haiti.....	.....	538.35
		Foreign West Indies.....	.....	19.22
		Danish West Indies.....	.....	13.62
		Foreign states.....	.....	1,582.29
		Total.....	.....	180,056.38
	Free, R. C. C.....	United Kingdom.....pkgs..	11	74.00
Guano and other manure.....	Free.....	.....do.....tons..	262	11,878.17
		United States.....do...	9	407.57
		British West Indies...do...	44	1,508.55
		Total.....do...	315	13,794.29
Gunpowder.....	24 cents per pound.....	United Kingdom.....lbs..	17,186	4,181.78
	Free (law 12 of 1889)..	United States.....do...	86,000	9,800.33
	Free, R. C. C.....	United Kingdom.....do...	20,000	1,442.42
Haberdashery and millinery....	12½ per cent.....	.....do.....	.....	486,145.76
		United States.....	.....	3,005.57
		Canada.....	.....	496.38
		France.....	.....	2,438.97
		Germany.....	.....	1,873.72
		Haiti.....	.....	530.20
		British West Indies.....	.....	1,166.96
		Foreign West Indies.....	.....	2.43
		Italy.....	.....	63.94
		Foreign states.....	.....	925.96
		Total.....	.....	496,649.89
	Free, R. C. C.....	United Kingdom.....pkgs..	2	261.22
	Free (law 27 of 1890)..	.....do.....do...	3	270.00
	Free (law 19 of 1890)..	.....do.....do...	4	177.94
		United States.....do...	1	21.90
		Total.....do...	5	199.84
Hams.....	4 cents per pound.....	United Kingdom.....lbs..	64,282	11,731.05
		United States.....do...	150,799	27,519.97
		Canada.....do...	200	36.49
		Haiti.....do...	14	2.55
		Germany.....do...	10	1.82
		Foreign West Indies..do...	9	1.64
		Foreign states.....do...	167	30.47
		Total.....do...	215,481	39,323.99
Hardware and cutlery.....	12½ per cent.....	United Kingdom.....	.....	296,642.38
		United States.....	.....	87,500.46
		Canada.....	.....	1,318.30
		Germany.....	.....	1,207.85
		Haiti.....	.....	2.43
		British West Indies.....	.....	17.52
		Belgium.....	.....	493.77
		Foreign states.....	.....	495.41
		Total.....	.....	360,678.12

Table showing the imports into Jamaica for the year ended March 31, 1891—Continued.

Articles.	Duty.	Whence imported.	Quantity.	Value.
Hardware and cutlery	Free (law 12 of 1889)	United Kingdom.....pkgs.	12,034	$42,398.98
		United States.....do...	17,359	65,232.29
		Total.....do...	29,393	107,631.27
	Free (law 27 of 1890)	United Kingdom.....do...	4	247.86
		United States.....do...	39	1,175.04
		Total.....do...	43	1,422.90
	Free, R. C. C.	United Kingdom.....do...	1,561	27,594.69
		United States.....do...	106	1,760.68
		British West Indies...do...	1	18.91
		Total.....do...	1,668	29,374.28
Hats, bonnets, and caps	12½ per cent.	United Kingdom.....doz.	32,852	86,471.64
		United States.....do...	593	1,947.57
		British West Indies...do...	350	1,209.32
		Germany.....do...	98	512.07
		Haiti.....do...	2	36.00
		Foreign states.....do...	87	524.11
		Total.....do...	33,982	90,700.71
Hay and straw	Free	United Kingdom.....pkgs.	80	76.04
		United States.....do...	757	1,451.03
		Canada.....do...	5	7.10
		British East Indies....do...	11	9.73
		Foreign states.....do...	10	19.47
		Total.....do...	863	1,563.37
Hops	12½ per cent.	United Kingdom.....	.....	1,266.26
		United States.....	.....	2,203.02
		Total.....	.....	3,469.28
Ice	Free	United States.....tons.	26	261.48
Instruments:				
Musical	12½ per cent.	United Kingdom.....	.....	14,113.60
		United States.....	.....	7,179.16
		France.....	.....	1,459.74
		Germany.....	.....	11.67
		Haiti.....	.....	595.65
		Foreign states.....	.....	716.34
		Total.....	.....	24,076.16
	Free	United Kingdom.....pkgs.	3	289.55
Scientific	12½ per cent.	.....do.....	.....	2,173.01
		United States.....	.....	4,865.25
		Foreign West Indies.....	.....	77.86
		Total.....	.....	7,116.12
	Free	United States.....pkgs.	20	1,002.47
		United Kingdom.....do...	1	9.73
	Free, R. C. C.	.....do.....do...	4	524.30
		United States.....do...	1	21.17
		Total.....do...	5	545.47

Table showing the imports into Jamaica for the year ended March 31, 1891—Continued.

Articles.	Duty.	Whence imported.	Quantity.	Value.
Instruments—Continued.				
Surgical	12½ per cent	United Kingdom		$3,202.80
		United States		1,285.73
		Haiti		13.62
		Total		4,502.15
	Free, R. C. C.	United Kingdom.....pkgs.	1	157.87
Telephone	Free	United States.....do...	3	197.90
Iron:				
Galvanized, for roofing	.....do	United Kingdom.....do...	2,932	38,150.74
		United States.....do...	285	1,939.50
		Total.....do...	3,217	40,090.24
Gates, pillars, standards, etc.	.....do	United Kingdom.....do...	713	6,028.90
		United States.....do...	23	156.13
		Total.....do...	736	6,185.03
Jewelry	12½ per cent	United Kingdom		25,842.32
		United States		2,264.52
		France		1,157.61
		Germany		1,005.80
		Haiti		1,070.14
		Foreign states		27.98
		Total		31,368.37
Lard	81 cents per pound	United Kingdom.....lbs.	1,127	114.26
		United States.....do...	363,179	36,821.05
		British West Indies...do...	3	.30
		Foreign states.....do...	420	42.58
		Total.....do...	364,729	36,978.19
Leather:				
Boots and shoes	12½ per cent	United Kingdom..doz. prs.	28,967	213,038.69
		United States.....do...	5,768	45,452.47
		Canada.....do...	15	170.18
		France.....do...	317	2,543.37
		British West Indies...do...	135	1,693.29
		Germany.....do...	2	24.24
		Austria.....do...	131	1,776.19
		Haiti.....do...	1	33.58
		Foreign states.....do...	54	1,001.67
		Total.....do...	35,390	264,733.68
	Free, R. C. C.	United Kingdom.....do...	125	2,288.29
Other sorts	12½ per cent	.....do		84,144.31
		United States		14,380.44
		France		27.18
		Germany		492.53
		Sierra Leone		9.73
		Danish West Indies		48.66
		Haiti		24.33
		Foreign states		622.25
		Total		99,749.43
	Free	United States.....pkgs.	1	117.52
		United Kingdom.....do...	1	121.66

Table showing the imports into Jamaica for the year ended March 31, 1891—Continued.

Articles.	Duty.	Whence imported.	Quantity.	Value.
Leather—Continued.				
Other sorts	Free R. C. C.	United Kingdom.....pkgs.	3	$223.12
		United States.....do...	3	153.53
		Total.....do...	6	376.65
Linen, manufactured	12½ per cent	United Kingdom		60,942.24
		United States		1,220.08
		Haiti		1.94
		Foreign states		15.17
		Total		62,179.43
	Free	United Kingdom.... pkgs.	17	3,167.19
		United States.....do...	2	578.87
		Total.....do...	19	3,746.06
Live stock:				
Asses	.....do.	British West Indies....No.	9	80.29
Cattle, neat	$2.43 per head	United Kingdom.....do...	16	2,129.82
		United States.....do...	50	924.63
		Foreign West Indies..do...	61	2,744.71
		Colombia.....do...	2,235	90,877.02
		British East Indies....do...	1	97.33
		Total.....do...	2,363	96,773.51
Dogs	Free	United Kingdom.....do...	2	145.99
Horses and mules	$2.43 per head	.....do.....do...	12	2,919.90
		United States.....do...	10	3,649.87
		Canada.....do...	2	1,824.94
		Foreign West Indies..do...	1	48.66
		Colombia.....do...	1	121.66
		Haiti.....do...	2	294.42
		British West Indies...do...	7	131.39
		Foreign states.....do...	5	389.32
		Total.....do...	40	9,380.16
Sheep	Free	United Kingdom.....do...	10	215.09
		United States.....do...	210	1,292.96
		Canada.....do...	35	170.33
		British West Indies....do...	3	10.94
		Foreign West Indies..do...	108	486.65
		Total.....do...	366	2,075.97
Swine	.....do.	United Kingdom.....do...	1	9.73
Machines:				
Brick making	.....do.	.....do.....pkgs.	1	58.94
Centrifugal	.....do.	.....do.....do...	28	1,397.73
		United States.....do...	5	1,054.36
		Danish West Indies...do...	1	12.16
		Total.....do...	34	2,664.25
Coffee, corn, and pimento farmers' shellers and pulpers.	.....do.	United Kingdom.....do...	43	1,333.25
		United States.....do...	19	461.12
		Total.....do...	62	1,794.37
Copying and printing presses.	.....do.	United Kingdom.....do...	135	9,498.85
		United States.....do...	99	5,605.69
		Total.....do...	234	15,104.54

Table showing the imports into Jamaica for the year ended March 31, 1891—Continued.

Articles.	Duty.	Whence imported.	Quantity.	Value.
Machines—Continued.				
Electric light, and supplies and materials.	Free	United Kingdom.....pkgs.	88	$4,056.91
		United States.....do...	956	47,687.90
		Total.....do...	1,044	51,744.81
Evaporating	....do	United States.....do...	1	58.40
Estates	....do	United Kingdom.....do...	132	5,649.13
		United States.....do...	17	837.89
		Total.....do...	149	6,487.02
Fiber	....do	United States.....do...	13	788.77
Galvanic batteries	....do	United Kingdom.....do...	2	126.44
		United States.....do...	11	289.73
		Total.....do...	13	416.17
Hay and chaff cutters and lawn mowers.	....do	United Kingdom.....do...	27	509.68
		United States.....do...	82	490.21
		Total.....do...	109	999.89
Ice making	....do	United Kingdom.....do...	322	124.09
		United States.....do...	53	669.95
		Total.....do...	375	794.04
Sewing	....do	United Kingdom.....do...	644	8,032.33
		United States.....do...	233	4,034.93
		Germany.....do...	131	1,821.53
		Total.....do...	1,008	13,888.79
Soda water	....do	United Kingdom.....do...	4	646.51
		United States.....do...	8	444.87
		Total.....do...	12	1,091.38
Washing and other labor-saving.	....do	United Kingdom.....do...	89	2,401.70
		United States.....do...	76	2,743.16
		British West Indies...do...	2	52.55
		Total.....do...	167	5,197.41
Marble:				
In blocks and slabs	....do	United Kingdom.....do...	26	612.44
		United States.....do...	1	49.87
		Total.....do...	27	662.31
Manufactured	12½ per cent.	United Kingdom.....	.....	6,241.64
		United States.....	.....	1,401.69
		Canada.....	.....	1,255.15
		Haiti.....	.....	21.90
		Total.....	.....	8,920.38
Matches	$1.21 per gross	United Kingdom.....gross..	12,662	12,323.52
		United States.....do...	294	286.51
		Canada.....do...	14	13.96
		Total.....do...	12,970	12,623.99

Table showing the imports into Jamaica for the year ended March 31, 1891—Continued.

Articles.	Duty.	Whence imported.	Quantity.	Value.
Meal:				
Corn	48 cents per barrel	United States.....bbls.	26,446	$90,089.07
		British West Indies		.97
		Total.....bbls.	26,446	90,090.04
Oat	do	United Kingdom.....do.	407	1,387.61
		United States.....do.	7	23.14
		Total.....do.	414	1,410.75
Meats:				
Preserved, other than by salting.	12½ per cent	United Kingdom		2,694.13
		United States		5,784.76
		France		506.12
		Germany		553.39
		Foreign states		16.87
		Total		9,555.27
Wet salted	$3.65 per barrel	United Kingdom.....bbls.	4	23.12
		United States.....do.	28	480.38
		Total.....do.	32	503.60
Metals:				
Copper	12½ per cent	United Kingdom.....cwts.	394	1,739.53
Sheathing	do	United States.....do.	18	163.63
Iron—				
Bar and rod	do	United Kingdom.....tons.	235	7,602.03
		United States.....do.	1	20.62
		Total.....do.	236	7,622.65
	Free (law 12 of 1889)	United States.....do.	5	1,167.59
Manufactured	12½ per cent	United Kingdom		294.07
		United States		234.70
		Total		528.77
Pig	do	United Kingdom.....tons.	89	1,178.68
	Free (law 12 of 1889)	United States.....do.	29	565.90
	Free, R. C. C.	United Kingdom.....do.	10	159.11
Lead (pig, rolled, or sheet)	12½ per cent	do.....do.	31	2,427.17
	Free (law 12 of 1889)	United States.....do.	5	13.56
Tin:				
Ingots, bars, and slabs	12½ per cent	United Kingdom.....cwts.	416	2,302.51
Manufactured	do	do		8,126.79
		United States		4,091.51
		Germany		.97
		Total		12,219.27
Milk, condensed	do	United Kingdom.....doz.	91,938	237,132.17
		United States.....do.	216	376.11
		Canada.....do.	100	109.49
		British West Indies...do.	1	.85
		Total.....do.	92,255	237,618.62
Mills:				
Cider	Free	United States.....pkgs.	2	34.56
Saw	do	do.....do.	3	108.66
Sugar, and parts thereof	do	United Kingdom.....do.	86	4,309.93

Table showing the imports into Jamaica for the year ended March 31, 1891—Continued.

Articles.	Duty.	Whence imported.	Quantity.	Value.
Mills—Continued.				
Wind and water	Free	United Kingdom.....pkgs.	102	$420.14
		United States.....do...	406	2,441.04
		Total.....do...	508	2,861.18
Small corn and coffee	.....do.....	United Kingdom.....do...	31	522.59
		United States.....do..	63	478.38
		Total.....do...	94	1,000.97
Jewelers'	.....do.....	United Kingdom.....do...	1	24.33
Molasses	.....do.....	United States.....gals..	182	70.42
Naphtha	12½ per cent	.....do.....do...	240	48.65
Oats	8 cents per bushel	United Kingdom.....bush..	928	677.41
		United States.....do...	13,275	9,690.41
		Canada.....do...	375	419.73
		Foreign states.....do..	3	2.19
		Total.....do...	14,781	10,789.74
	Free (law 19 of 1890)	United States.....do...	600	473.44
Oil:				
Almond	18 cents per gallon	United Kingdom.....gals..	6	17.72
Castor	.....do.....	.....do.....do..	5,187	4,312.45
		United States.....do..	259	214.96
		British West Indies...do...	140	116.39
		Total.....do..	5,585	4,643.80
Cod-liver	.....do.....	United Kingdom.....do...	213	426.90
		United States.....do...	56	113 30
		Canada.....do...	27	54.19
		Total.....do...	296	594.39
Colza	.....do.....	United Kingdom..... do...	66	51.84
Dynamo	.....do.....	United States.....do..	40	19.47
Engine	.....do.....	United Kingdom.....do..	1,785	1,230.61
		United States.....do...	1,997	1,376.70
		Total.....do..	3,792	2,607 31
	Free (law 12 of 1889)	United States.....do.	5,132	1,609.63
Kerosene	18 cents per gallon	.....do.....do...	595,158	72,408.41
		British West Indies...do...	4	.48
		Total.....do...	595,162	72,408.89
	Free (law 12 of 1889)	United States.....do..	570	99 78
	Free, army and navy	.....do.....do...	1,296	268.14
	Free, R. C. C.	United Kingdom.....do...	2,641	450.01
		United States.....do...	96	15.04
		Total.....do...	2,737	465.05
Lamp	18 cents per gallon	United Kingdom.....do...	1,153	654.62
		United States.....do...	1,132	643.02
		Canada.....do...	342	194.17
		France.....do...	4	2.14
		Total.....do...	2,631	1,493.95

Table showing the imports into Jamaica for the year ended March 31, 1891—Continued.

Articles.	Duty.	Whence imported.	Quantity.	Value.
Oil—Continued.				
Lard	18 cents per gallon	United Kingdom.....gals.	8	$4.38
		United States.....do...	133	72.81
		Total.....do...	141	77.19
Mustard	.....do	United Kingdom.....do...	20	18.25
Neat's foot (harness)	.....do	.....do.....do...	1,461	1,599.73
		United States.....do...	54	59.24
		Total.....do...	1,515	1,658.97
Olive, salad, Florence, etc.	.....do	United Kingdom.....do...	1,315	2,239.42
		United States.....do...	37,313	63,553.97
		Haiti.....do...	11	18.73
		Foreign states.....do...	28	47.69
		Total.....do...	38,667	65,859.81
Paint, linseed, etc.	.....do	United Kingdom.....do...	28,528	12,7:6.36
		United States.....do...	949	423.34
		Total.....do...	29,477	13,149.70
	Free (law 12 of 1889)..	United States.....do...	136	121.44
	Free, R. C. C.	United Kingdom.....do...	1,270	1,358.56
Palm	18 cents per gallon	.....do.....do...	20	15.53
	Free (law 12 of 1889)..	United States.....do...	76	574.39
Tar	18 cents per gallon	United Kingdom.....do...	25	49.67
Oil cake and other food for cattle.	Free	.....do.....cwts..	139	580.16
		United States.....do...	130	350.08
		British East Indies.....do...	1	.73
		Total.....do...	270	930.97
Onions	.....do	United Kingdom.....lbs..	17,828	648.70
		United States.....do...	74,312	5,573.90
		Canada.....do...	22,015	692.50
		British West Indies...do...	4,180	25.54
		Total.....do...	118,335	6,940.64
Opium	12½ per cent	United Kingdom.....do...	758	3,175.31
		United States.....do...	108	471.51
		Total.....do...	866	3,646.82
Osnaburgh	.....do	United Kingdom.....	.....	9,685.54
Painters' colors and materials..	..... do	.....do.....	.....	44,868.92
		United States.....	.....	6,954.06
		Total.....	.....	51,822.98
	Free (law 12 of 1889)..	United States.....pkgs..	141	1,193.36
	Free, R. C. C	United Kingdom.....do...	561	3,272.09
Pans for boiling sugar	Free	.....do.....do...	447	1,235.29
Paper, not stationery	12½ per cent	.....do.....	.....	4,193.38
		United States.....	.....	17,486.91
		Foreign West Indies.....	.....	729.97
		Foreign states.....	.....	1.94
		Total.....	.....	22,412.20
		United States.....pkgs..	10	170.33
	Free (law 12 of 1889)..	.....do.....do...	1	14.11

Table showing the imports into Jamaica for the year ended March 31, 1891—Continued.

Articles.	Duty.	Whence imported.	Quantity.	Value.
Paper hangings	12½ per cent	United Kingdom		$1,228.40
		United States		612.20
		Total		1,840.60
Peas and beans	8 cents per bushel	United Kingdom.....bush.	105	179.26
		United States.....do...	3,587	6,108.79
		British West Indies...do...	10	16.60
		Haiti.....do...	10	17.45
		Total.....do...	3,712	6,322.10
	Free, R. C. C.	United States.....do...	2	2.51
Perfumery:				
Florida water	12½ per cent	United Kingdom.....doz.	387	810.51
		United States.....do...	2,120	4,899.14
		France.....do...	50	11.89
		Total.....do...	2,557	5,721.54
Other sorts	.....do	United Kingdom		38,197.36
		United States		12,378.22
		Canada		151.59
		Germany		599.57
		France		5,295.70
		British West Indies		2.92
		Haiti		508.55
		Foreign states		499.54
		Total		57,633.45
Pipes for conveying fluids	Free	United Kingdom.....pkgs.	21,828	36,668.50
		United States.....do...	4,028	4,162.96
		Canada.....do...	1	24.33
		Total.....do..	25,857	40,855.79
Plants, growing	.....do	United Kingdom.....do...	24	83.88
		United States.....do...	16	204.83
		British West Indies...do...	4	38.93
		Foreign states.....do...	2	4.87
		Total.....do...	46	332.51
Plated ware	12½ per cent	United Kingdom		8,413.71
		United States		1,800.22
		Haiti		442.58
		Foreign West Indies		48.90
		Total		10,705.41
	Free (law 27 of 1890...	United Kingdom.....pkgs.	3	105.71
Plantains	Free	Foreign states.....do...	214	431.53
Plows and parts thereof	.....do	United Kingdom.....do...	17	532.61
		United States.....do...	213	2,961.16
		Total.....do...	230	3,493.77
Pork, wet salted	$3.65 per barrel	United Kingdom		2.10
		United States.....bbls.	9,949	145,253.56
		Total.....do...	9,949	145,256.66
	Free, R. C. C.	United States.....do...	1	17.56
Postage, revenue and telegraph stamps.	.....do	United Kingdom.....pkgs.	3	2,147.46

Table showing the imports into Jamaica for the year ended March 31, 1891—Continued.

Articles.	Duty.	Whence imported.	Quantity.	Value.
Potatoes	Free	United Kingdom.....bush.	9,941	$1,074.52
		United States.....do...	4,808	5,680.94
		Canada.....do...	4,896	4,682.19
		British West Indies...do...	558	362.55
		Foreign states.....do...	3	2.43
		Total.....do...	20,206	11,802.63
Poultry	.....do	United Kingdom.....pkgs.	7	51.82
		United States.....do...	129	680.02
		Haiti.....do...	2	4.86
		Foreign states.....do...	1	9.73
		Total.....do...	139	746.43
Printing materials	12½ per cent	United Kingdom.....	.....	3,174.25
		United States.....	.....	1,118.91
		Total.....	.....	4,293.16
Pumps and parts thereof	Free	United Kingdom.....No.	23	337.19
		United States.....do...	38	499.58
		Total.....do...	61	836.77
Rabbits	.....do	United States.....do...	2	1.46
Railway supplies:				
Truck wheels	.....do	.....do.....pkgs.	16	34.06
Tickets	Free (law 12 of 1889)	.....do.....do...	7	686.69
Ties	.....do	.....do.....do...	69,224	20,668.38
Station houses, first and second class.	.....do	.....do.....do...	1,272	2,928.13
Turntables	.....do	.....do.....do...	82	2,127.14
Rice	73 cents per 100 pounds.	United Kingdom.....lbs.	6,445,880	188,213.24
		United States.....do...	68,874	2,011.05
		Canada.....do...	4,475	130.66
		British East Indies....do...	1,937,514	56,573.46
		British West Indies...do...	36	1.05
		Germany.....do...	24,050	702.23
		Haiti.....do...	330	9.63
		Foreign states.....do...	1,200	35.03
		Total.....do...	8,482,359	247,676.35
Rosin and resin	Free	United Kingdom.....pkgs.	3	4.42
		United States.....do...	18	61.02
		Total.....do...	21	65.44
Salt:				
Fine	24 cents per barrel	United Kingdom.....lbs.	2,749,243	13,379.18
		United States.....do...	21,479	104.52
		Canada.....do...	303,705	1,477.97
		British West Indies...do...	3,327,730	16,194.38
		Total.....do...	6,402,157	31,156.05
Rock	Free	United Kingdom.....cwts.	1,247	554.06
Sausages	4 cents per pound	.....do.....lbs.	460	202.73
		United States.....do...	3,095	531.57
		France.....do...	175	20.38
		Germany.....do...	6	.73
		Haiti.....do...	13	1.09
		Foreign states.....do...	4	.24
		Total.....do...	3,753	756.69

Table showing the imports into Jamaica for the year ended March 31, 1891—Continued.

Articles.	Duty.	Whence imported.	Quantity.	Value.
Seeds, garden and other	12½ per cent	United Kingdom		$1,310.95
		United States		1,178.66
		Total		2,489.64
	Free, R. C. C.	United Kingdom.....pkgs.	1	29.07
		United States.....do...	2	5.64
		Teneriffe.....do...	1	14.19
		Total.....do...	4	48.90
Silk and silk manufactures	12½ per cent	United Kingdom		33,156.35
		United States		258.11
		Foreign states		109.49
		Total		33,523.95
Silverware	.....do.	United Kingdom		2,852.45
		United States		1,024.51
		Total		3,876.96
Slates	Free	United Kingdom.....pkgs.	88	487.03
		United States.....do...	392	1,540.85
		Germany.....do...	1	7.95
		Total.....do...	481	2,035.83
Soap	$1.33 per 100 pounds	United Kingdom.....lbs.	3,073,639	134,620.77
		United States.....do...	191,306	8,378.90
		Germany.....do...	11,200	490.54
		British West Indies....do...	6,168	270.15
		Foreign states.....do...	26	1.13
		Total.....do...	3,282,339	143,761.49
	Free (law 12 of 1889)	United States.....do...	480	12.18
Soda, washing	Free	United Kingdom.....cwts.	93	230.19
		United States.....do...	154	2,162.92
		Total.....do...	247	2,393.11
Specie:				
Gold	.....do.	United Kingdom		73,002.37
		United States		4,384.31
		Haiti		2,837.17
		Total		80,223.85
Silver	.....do.	United Kingdom		223,740.99
		United States		1,130.85
		British West Indies		316.32
		Foreign states		414.58
		Total		225,602.74
Nickel	.....do.	United Kingdom		2,433.25
Specimens illustrative of natural history.	.....do.	United States.....pkgs.	1	97.33
		Canada.....do...	1	24.33
		Total.....do...	2	121.66
Spices	12½ per cent	United Kingdom		6,359.12
		United States		1,236.39
		Total		7,595.51

Table showing the imports into Jamaica for the year ended March 31, 1891—Continued.

Articles.	Duty.	Whence imported.	Quantity.	Value.
Spirits:				
Alcohol	$2.43 per gallon	United Kingdom.....gals.	108	$257.76
		United States.....do...	210	374.67
		Haiti.....do...	4	22.02
		Foreign states.....do...	3	7.54
		Total.....do...	325	£61.99
	Free, R. C. C.	United Kingdom.....do...	56	70.88
Bay rum	$2.43 per gallon	.....do.....do...	2	4.87
		United States.....do...	3	13.13
		Canada.....	.....	.97
		Germany.....	.....	.97
		Danish West Indies..gals..	7	15.33
		Foreign states.....do...	8	28.22
		Haiti.....	.....	.73
		Total.....gals..	20	64.22
Brandy	.....do.....	United Kingdom.....do...	10,842	26,381.68
		United States.....do...	693	1,685.41
		France.....do...	32	76.95
		Haiti.....do...	2	6.08
		Foreign states.....do...	74	179.91
		Total.....do...	11,643	28,330.03
	Free, army and navy..	United Kingdom.....do...	4	9.73
	Free, R. C. C.	.....do.....do..	121	458.05
Cordials	$2.43 per gallon	.....do.....do...	821	2,398.70
		United States.....do...	6	18.35
		Haiti.....do...	6	16.60
		Danish West Indies.....	.....	.36
		Foreign states.....gals..	14	39.88
		Total.....do...	847	2,473.89
	Free, army and navy..	United Kingdom.....do...	2	4.87
Gin	$2.43 per gallon	.....do.....do...	3,332	4,053.75
		United States.....do...	56	67.55
		Germany.....do...	9	11.41
		Holland.....do...	15	18.25
		Haiti.....do...	1	.77
		Foreign states.....do...	4	4.99
		Total.....do...	3,417	4,156.72
	Free, army and navy..	United Kingdom.....do...	41	102.20
	Free, R. C. C.	.....do.....do...	7	29.20
Rum	$2.43 per gallon	.....do.....do...	1	34.06
		United States.....do...	11	18.85
		Foreign states.....	.....	.73
		Total.....gals..	12	53.64
Whisky	.....do.....	United Kingdom.....do...	15,281	22,309.31
		United States.....do...	829	1,210.11
		British West Indies....do...	130	190.29
		Haiti.....	.....	.22
		Foreign states.....gals..	17	24.13
		Total.....do...	16,257	23,734.06

Table showing the imports into Jamaica for the year ended March 31, 1891—Continued.

Articles.	Duty.	Whence imported.	Quantity.	Value.
Spirits—Continued.				
Whisky	Free, army and navy	United Kingdom.....gals.	279	$586.41
Stationery	12½ per cent	.....do		55,572.10
		United States		5,816.44
		Canada		507.88
		Germany		995.35
		British West Indies		142.79
		Haiti		2.43
		Foreign states		558.00
		Total		63,594.99
	Free (law 12 of 1889)	United States.....pkgs.	43	4,033.21
	Free, R. C. C	United Kingdom.....do	182	8,976.38
For United States consul and telegraph company.	Free	.....do.....do	20	1,267.31
		United States.....do	3	29.20
		British West Indies....do	7	111.93
		Total.....do	30	1,408.44
Steam-engines and parts	.....do	United Kingdom.....do	1,660	26,685.98
		United States.....do	747	40,142.31
		British West Indies....do	48	194.66
		Total.....do	2,455	67,022.95
Stills and parts	.....do	United Kingdom.....do	10	985.24
		United States.....do	2	17.49
		Canada.....do	1	48.66
		Total.....do	13	1,051.39
Sugar:				
Refined	4 cents per pound	United Kingdom.....lbs.	27,627	1,680.58
		United States.....do	90,313	5,493.85
		Haiti.....do	4	.24
		Foreign states.....do	92	5.60
		Total.....do	118,036	7,180.27
Unrefined	$2.43 per 100 pounds	United States.....do	2,392	126.97
		British West Indies....do	70	4.13
		Total.....do	2,462	131.10
Tar and pitch	12½ per cent	United Kingdom		951.32
		United States		867.45
		Total		1,818.77
Tea	24 cents per pound	United Kingdom.....lbs.	33,064	16,090.35
		United States.....do	930	452.58
		Canada.....do	652	317.32
		British West Indies....do	1	.36
		Haiti.....do	7	3.40
		Foreign states.....do	144	70.25
		Total.....do	34,798	16,934.26
	Free (law 19 of 1890)	United Kingdom.....do	28	9.73
	Free, R. C. C	.....do.....do	122	67.94

Table showing the imports into Jamaica for the year ended March 31, 1891—Continued.

Articles.	Duty.	Whence imported.	Quantity.	Value.
Telegraph and telephone machines and materials.	Free	United Kingdom.....pkgs.	4,776	$18,555.21
		United States.....do...	1,448	5,430.87
		Danish West Indies...do...	2	19.47
		Foreign states.....do...	2	105.24
		Total.....do...	6,228	24,110.79
Tiles, earthen and marble	.....do	United Kingdom.....do...	247	1,783.52
Tobacco:				
Cigars	$1.21 per pound	.....do.....lbs.	8	56.45
		United States.....do...	158	1,375.91
		Germany.....do...	12	19.47
		Foreign West Indies...do...	180	955.04
		Haiti.....do...	1	4.87
		Foreign states.....do...	26	112.41
		Total.....do...	385	2,524.15
Cigarettes	24 cents per pound	United Kingdom.....do...	754	1,037.93
		United States.....do...	21,868	18,919.91
		Canada.....do...	2,174	1,486.71
		Malta.....do...	128	121.66
		Haiti.....do...	1	.97
		Foreign states.....do...	2	1.46
		Total.....do...	24,927	21,568.64
Manufactured	.....do	United Kingdom.....do...	1,321	482.06
		United States.....do...	107,253	39,145.84
		Canada.....do..	365	133.21
		Germany.....do...	1	.54
		Foreign states.....do...	13	4.76
		Total.....do...	108,953	39,766.41
	12 cents per pound	United Kingdom.....do...	2,790	509.16
		United States.....do...	124,521	22,724.26
		Germany.....do...	1,262	230.30
		Foreign West Indies...do...	3,573	652.15
		Foreign states.....do...	10,240	1,868.73
		Total.....do...	142,386	25,984.60
Tomb railings	Free	United Kingdom.....pkgs.	121	999.09
		United States.....do...	5	100.27
		Total.....do...	126	1,099.36
Tongues:				
Dry salted	4 cents per pound	United Kingdom.....lbs.	46	10.58
		United States.....do...	5,797	1,036.94
		Haiti.....do...	6	1.46
		Foreign states.....do...	12	1.94
		Total.....do...	5,861	1,050.92
Wet salted	$3.65 per barrel	United States.....bbls.	1,245	21,203.98
		Canada.....do...	2	34.06
		Total.....do...	1,247	21,238.04
Tortoise shells	Free	British West Indies..pkgs.	13	4.87
Tow	.....do	United Kingdom.....do...	1	2.85

Table showing the imports into Jamaica for the year ended March 31, 1891—Continued.

Articles.	Duty.	Whence imported.	Quantity.	Value.
Turpentine	12½ per cent	United Kingdom.....gals.	2,362	$1,262.61
		United States.....do...	5,665	3,133.15
		Total.....do...	8,027	4,395.76
	Free (law 12 of 1889)	United States.....do...	50	29.89
Turtles:				
Live	Free	British West Indies.....No.	7	17.03
		Foreign West Indies..do...	5	24.33
		Foreign states.....do...	153	204.39
		Total.....do...	165	245.75
Dried	.....do.....	Central America.....pkg.	1	4.87
Unenumerated manufactured goods.	12½ per cent	United Kingdom		175,770.86
		United States		80,002.66
		Canada		259.84
		Germany		1,218.38
		France		.60
		British West Indies		1,844.28
		Haiti		536.96
		Colombia		510.98
		Norway		4.87
		Brazil		2.43
		Foreign states		1,043.19
		Total		261,195.05
	Free (law 12 of 1889)	United States.....pkgs.	13	309.93
	Free (law 27 of 1890)	United Kingdom.....do...	2	42.05
		United States.....do...	18	318.22
		Total.....do...	20	360.27
	Free, army and navy	United States.....do...	1	19.47
	Free (law 19 of 1890)	United Kingdom.....do...	1	63.26
		British West Indies....do...	1	4.87
		Total.....do...	2	68.13
	Free, R. C. C.	United Kingdom.....do...	7	72.24
		United States.....do...	1	10.21
		Total.....do...	8	82.45
	12½ per cent	United Kingdom		183.06
		United States		1,658.96
		Total		1,842.02
Uniforms, civil and military	Free	United Kingdom.....pkgs.	26	1,947.71
		United States.....do...	1	9.73
		Total.....do...	27	1,957.44
Vegetables, fresh and other sorts.	.....do.....	United States.....do...	102	181.88
		Canada.....do...	16	19.46
		British West Indies...do...	3	30.17
		Total.....do...	121	231.51

Table showing the imports into Jamaica for the year ended March 31, 1891—Continued.

Articles.	Duty.	Whence imported.	Quantity.	Value.
Vinegar	12½ per cent	United Kingdom.....gals.	7,011	$1,189.93
		United States.....do...	16,294	2,437.32
		France.....do...	2,618	494.44
		Total.....do...	25,923	4,121.69
Wheat	18 cents per bushel	United States.....bush.	1,545	1,755.56
Wine:				
Burgundy	60 cents per gallon	United Kingdom.....gals.	136	375.38
Champagne and moselle	.....do	.....do.....do...	2,681	12,046.27
		United States.....do...	54	264.81
		Germany.....do...	163	793.24
		Foreign West Indies...do...	4	19.47
		Haiti.....do...	6	26.76
		Foreign states.....do...	6	317.53
		Total.....do...	2,914	13,468.08
	Free	United Kingdom.....do...	240	924.63
Claret	60 cents per gallon	.....do.....do...	9,682	4,134.99
		United States.....do...	152	222.51
		British West Indies...do...	101	147.45
		Germany.....do...	63	91.49
		France.....do...	188	25.79
		Danish West Indies.....	.....	.48
		Foreign West Indies..gals.	8	11.67
		Haiti.....do...	162	235.90
		Foreign states.....do...	27	39.66
		Total.....do...	10,383	14,909.94
	Free, army and navy	United Kingdom.....do...	6	14.60
Ginger	60 cents per gallon	.....do.....do...	56	82.73
Light hock, Chablis, Sauterne, etc.	.....do	.....do.....do...	600	1,460.96
		United States.....do...	13	30.41
		Haiti.....do...	2	6.08
		Total.....do...	615	1,497.45
Madeira and muscatel	.....do	United Kingdom.....do...	430	1,046.00
		United States.....do...	2	4.87
		Sierra Leone.....do...	3	7.30
		Total.....do...	435	1,058.17
Port	.....do	United Kingdom.....do...	10,759	26,179.94
		United States.....do...	1,223	2,974.84
		France.....do...	886	2,155.86
		Germany.....do...	247	601.01
		Foreign states.....do...	1	2.02
		Total.....do...	13,116	31,963.67
	Free, R. C. C.	United Kingdom.....do...	40	187.56
Prune	60 cents per gallon	.....do.....do...	48	80.29
Red Marsala, Marsden, Spanish, Terregona, and Malaga.	.....do	.....do.....do...	21,026	30,697.39
		United States.....do...	75	109.49
		France.....do...	393	573.76
		Foreign states.....do...	74	107.66
		Total.....do...	21,568	31,488.30

Table showing the imports into Jamaica for the year ended March 31, 1891—Continued.

Articles.	Duty.	Whence imported.	Quantity.	Value.
Wine—Continued.				
Sherry	60 cents per gallon	United Kingdom.....gals.	8,240	$24,059.49
		United States.....do...	118	343.57
		France.....do...	30	87.60
		Foreign West Indies..do...	28	81.75
		Foreign states.....do...	1	4.38
		Total.....do...	8,417	24,576.79
	Free, army and navy..	United Kingdom.....do...	32	77.86
Unfermented	60 cents per gallon	.....do.....do...	30	49.57
		United States.....do...	3	7.50
		Total.....do...	33	57.07
Vermuth	.....do	United Kingdom.....do...	60	87.84
		Haiti.....do...	2	3.40
		Total.....do...	62	81.24
White	.....do	United Kingdom.....do...	218	318.26
Wire:				
Iron, for fencing	Free	.....do .....pkgs..	8,874	22,678.19
		United States.....do...	4,523	15,089.61
		Canada.....do...	79	214.12
		Haiti.....do...	5	12.16
		Total.....do...	13,481	37,994.08
Rope (railway)	.....do	United States.....do...	17	821.62
Wood:				
Lumber—				
Pitch pine	$3.16 per 1,000 feet	.....do.....feet..	6,226,481	16,914.90
		Canada.....do...	35,570	807.63
		Total.....do...	6,262,051	17,722.53
	Free (law 12 of 1889)..	United States.....do...	314,567	7,857.83
White pine	$2.19 per 1,000 feet	United Kingdom.....do...	418	8.22
		United States.....do...	6,454,940	127,222.51
		Canada.....do...	1,383,637	27,270.54
		British East Indies....do...	39	.77
		Haiti.....do...	9,052	178.41
		Foreign states.....do...	2,000	39.41
		Total.....do...	7,850,086	154,719.86
	Free (law 12 of 1889)..	United States.....do...	402,055	7,945.29
	Free, R. C. C.	.....do.....do...	7,829	355.47
Hoops	Free	United Kingdom.....No..	161,300	1,509.19
		United States.....do...	23,500	13.75
		Total.....do...	184,800	1,522.94
Manufactured	12½ per cent	United Kingdom.....	.....	4,771.13
		United States.....	.....	22,536.08
		Canada.....	.....	116.06
		France.....	.....	3.65
		Germany.....	.....	1,617.58
		British East Indies.....	.....	977.19
		Foreign states.....	.....	522.41
		Total.....	.....	30,544.10

Table showing the imports into Jamaica for the year ended March 31, 1891—Continued.

Articles.	Duty.	Whence imported.	Quantity.	Value.
Wood—Continued.				
Manufactured	Free (law 12 of 1889)	United Kingdom.....pkgs.	3,000	$2,433.25
		United States.....do...	357	488.23
		Total.....do...	3,357	2,921.48
	Free (law 27 of 1890)	United States.....do...	3	22.87
		Canada.....do...	9	389.32
		Total.....do...	12	412.19
	Free (law 19 of 1890)	United Kingdom.....do...	1	31.63
	Free, R. C. C.	.....do.....do...	3	73.66
		United States.....do...	33	783.18
		Total.....do...	36	856.84
Oars	12½ per cent.	United Kingdom		68.59
		United States		1,631.47
		Total		1,700.06
Shingles—				
Cypress	$1.46 per 1,000	United States.....No.	5,436,769	52,916.06
		Canada.....do...	34,624	337.00
		Total.....do...	5,471,393	53,253.06
White cedar	97 cents per 1,000	United States.....do...	383,220	1,645.95
		Canada.....do...	376,620	1,832.82
		Total.....do...	759,840	3,478.77
Shooks—				
Hogshead	Free	United Kingdom.....do...	902	391.75
		United States.....do...	525	6,009.70
		Total.....do...	1,427	6,401.45
Puncheon	.....do.....	United Kingdom.....do...	517	1,679.54
		United States.....do...	64,501	14,645.12
		Total.....do...	65,018	16,324.66
Other sorts	.....do.....	United Kingdom.....do...	38	379.34
		United States.....do...	70,696	15,839.03
		Canada.....do...	28	14.82
		British West Indies...do...	126	108.82
		Total.....do...	70,888	16,342.01
Staves and headings	.....do.....	United States.....do...	174,600	8,253.58
Trusses and hoops	.....do.....	United Kingdom.....sets.	91	433.38
		United States.....do...	15	85.02
		Total.....do...	106	518.40
Woolen and worsted manufactures.	12½ per cent.	United Kingdom		200,382.39
		United States		2,037.48
		Canada		641.22
		British West Indies		1,730.57
		Germany		1,443.76
		Haiti		262.79
		Foreign states		310.97
		Total		206,809.18
	Free (law 27 of 1890)	United Kingdom.....pkgs.	11	1,028.49
	Free (law 19 of 1890)	.....do.....do...	1	69.24
Yams	Free	Foreign states.....cwts.	95	86.01

RÉSUMÉ OF IMPORTS.

United Kingdom	$5,847,028.51
United States	3,554,125.35
Canada	791,047.00
British West Indies	46,048.64
British East Indies	58,743.60
France	22,435.79
Germany	30,198.75
Haiti	9,611.44
Foreign West Indies	6,763.06
Foreign states	18,012.21
Austria	1,776.20
Colombia	91,568.06
Belgium	691.85
Norway	4.87
Danish West Indies	131.99
Italy	63.94
Switzerland	14.21
Holland	18.25
Sierra Leone	17.03
Teneriffe	14.19
Malta	121.66
Central America	9.73
Brazil	2.43
Total	10,478,448.94
Rated	4,210,026.52
Ad valorem	4,874,730.46
Free, army and navy	10,227.44
Free, R. C. C. (railway, governor, and hotels)	1,382,464.51

EXPORTS.

The exports of island products show an increase this year of 20 per cent. over 1889. Exports to the United Kingdom have increased 16 per cent., now equaling 33 per cent. of the total exports; those to the United States show an increase of 23 per cent., now equaling 54 per cent. of the total exports; and those to Canada show an increase of 12 per cent., now equaling 2 per cent. of the total exports.

Table showing the exports from Jamaica for the year ended March 31, 1891.

Articles.	Whither exported.	Quantity.	Value.
Aërated waters	British West Indies.....barrels	5	$47.20
	Foreign states.....do	17	85.89
	Total.....do	22	133.09
Annotto	United Kingdom.....pounds	39,459	1,600.22
	Canada.....do	26,761	1,085.27
	United States.....do	445,580	18,070.12
	Total.....do	511,800	20,755.61
Arrowroot	United Kingdom .....do	370	12.87
Bark	.....do.....packages	1	1.21
	United States.....do	1	2.02
	Total.....do	2	3.23

Table showing the exports from Jamaica for the year ended March 31, 1891—Continued.

Articles.	Whither exported.	Quantity.	Value.
Beeswax	United Kingdom.....cwts...	806	$21,982.46
	United States.....do.....	57	1,548.02
	Germany.....do.....	20	540.93
	Total.....do.....	883	24,071.41
Boats and canoes	British West Indies.....number...	1	24.33
Bricks	.....do.....do.....	10,000	97.33
Carriages and carts	Haiti.....do.....	2	107.06
Cattle horns	United Kingdom.....do.....	1,154	38.93
Cocoa	.....do.....cwts...	3,677	40,257.46
	Canada.....do.....	156	1,709.55
	British West Indies.....do.....	6	65.49
	France.....do.....	1,558	17,065.29
	Germany.....do.....	100	1,094.96
	Holland.....do.....	278	3,044.48
	United States.....do.....	485	5,311.25
	Foreign states.....do.....	157	1,723.43
	Total.....do.....	6,417	70,271.90
Cocoanuts	United Kingdom.....number...	775,857	12,271.03
	British West Indies.....do.....	5,637	89.15
	Canada.....do.....	26,946	426.17
	United States.....do.....	7,737,678	122,866.73
	Foreign states.....do.....	8,500	134.43
	Total.....do.....	8,554,618	135,787.48
Clay	United Kingdom.....package...	1	4.86
Coffee	.....do.....cwts...	30,544	551,403.69
	Canada.....do.....	3,920	71,533.94
	British West Indies.....do.....	1,141	20,826.77
	British Honduras.....do.....	2	33.07
	France.....do.....	1,399	25,527.92
	Italy.....do.....	1,246	22,735.45
	Germany.....do.....	2,129	38,848.62
	Austria.....do.....	411	7,499.36
	Russia.....do.....	1	16.27
	Holland.....do.....	605	11,033.62
	United States.....do.....	33,974	620,016.65
	Haiti.....do.....	44	815.01
	Foreign West Indies.....do.....	90	1,646.99
	Foreign states.....do.....	174	3,175.38
	Total.....do.....	75,680	1,381,113.79
Divi-divi	United Kingdom.....tons...	33	1,104.69
Drugs (sarsaparilla)	.....do.....pounds...	5,319	799.82
Fruit:			
Bananas	.....do.....bunches...	237	105.71
	United States.....do.....	4,843,959	2,160,869.91
	Canada.....do.....	3,225	1,438.65
	British West Indies.....do.....	232	103.48
	British Guiana.....do.....	6	2.67
	Total.....do.....	4,847,659	2,162,520.42
Grapes	United Kingdom.....barrels...	6	14.59
	Canada.....do.....	16	37.95
	United States.....do.....	87	227.98
	Total.....do.....	109	280.52

Table showing the exports from Jamaica for the year ended March 31, 1891—Continued.

Articles.	Whither exported.	Quantity.	Value.
Fruit—Continued.			
Lemons	United States.....barrels..	21	$55.96
Limes	.....do.....do.....	744	1,811.54
	United Kingdom.....do.....	57	138.69
	British West Indies.....do.....	1	2.43
	Total.....do.....	802	1,952.66
Mangoes	Canada.....number...	200	2.19
	British West Indies.....do.....	52,640	306.34
	United States.....do.....	164,580	429.34
	Foreign states.....do.....	4,800	34.06
	Total.....do.....	222,020	771.93
Oranges	United Kingdom.....number...	898,075	5,633.72
	Canada.....do.....	1,906,900	12,991.38
	British West Indies.....do.....	253,750	1,723.81
	United States.....do.....	37,666,360	256,624.67
	Total.....do.....	40,725,085	276,978.58
Pineapples	United Kingdom.....dozens...	78	56.93
	Canada.....do.....	526	383.96
	British West Indies.....do.....	96	69.71
	United States.....do.....	9,828	7,174.37
	Total.....do.....	10,528	7,684.97
Shaddock	United Kingdom.....barrels...	1	1.46
	British West Indies.....do.....	3	12.16
	United States.....do.....	9	31.13
	Total.....do.....	13	44.75
Unenumerated	United Kingdom.....packages...	24	160.59
	Canada.....do.....	4	8.51
	British West Indies.....do.....	45	501.48
	British Guiana.....do.....	87	243.32
	United States.....do.....	212	586.41
	Foreign states.....do.....	21	70.56
	Total.....do.....	393	1,570.87
Ginger	United Kingdom.....cwts...	7,367	80,669.78
	Canada.....do.....	26	289.37
	British West Indies.....do.....	21	225.81
	British Guiana.....do.....	1	6.64
	United States.....do.....	3,468	39,977.10
	Foreign states.....do.....	2	25.87
	Total.....do.....	10,885	119,194.57
Herbs	United States.....packages...	40	747.98
Hides	United Kingdom.....pounds...	65,559	5,317.37
	Canada.....do.....	37,986	3,080.96
	United States.....do.....	33,012	3,677.54
	Germany.....do.....	118,025	9,572.80
	Total.....do.....	254,582	21,648.67

Table showing the exports from Jamaica for the year ended March 31, 1891—Continued.

Articles.	Whither exported.	Quantity.	Value.
Honey	United Kingdom.....cwts...	1,423	$6,922.93
	Canada.....do.....	5	24.33
	United States.....do.....	5	24.33
	Germany.....do.....	63	304.45
	Total.....do.....	1,496	7,276.04
Ice	British West Indies.....tons...	8	72.99
	Haiti.....do.....	34	842.13
	Foreign states.....do.....	125	2,007.42
	Total.....do.....	167	2,922.54
Leather, raw	British West Indies.....packages...	1	12.16
	Foreign states.....do.....	7	58.39
	United States.....do.....	1	1.39
	Total.....do.....	9	71.94
Lime	Foreign states.....barrels...	55	30.89
Lime juice	United Kingdom.....gallons...	44,492	9,021.67
	Canada.....do.....	110	32.29
	United States.....do.....	9,282	1,882.11
	Total.....do.....	53,884	10,936.07
Live animals:			
Apes	British West Indies.....number...	1	24.33
	United States.....do.....	1	24.33
	Total.....do.....	2	48.66
Dogs	British West Indies.....do.....	1	4.86
	Foreign states.....do.....	9	97.33
	Total.....do.....	10	102.19
Horses and mules	United Kingdom.....do.....	1	486.65
	British West Indies.....do.....	33	3,966.19
	Haiti.....do.....	4	861.36
	Total.....do.....	38	5,314.20
Miscellaneous unenumerated island products.	United Kingdom.....packages...	37	744.08
	Canada.....do.....	1	3.65
	British West Indies.....do.....	27	368.99
	British Guiana.....do.....	3	167.16
	United States.....do.....	42	354.27
	Germany.....do.....	3	43.79
	Haiti.....do.....	3	37.46
	Foreign states.....do.....	29	307.31
	Foreign West Indies.....do.....	1	4.86
	Total.....do.....	146	2,031.57
Molasses	British West Indies.....do.....	2	29.19
Nuts:			
Kola	United Kingdom.....pounds...	1,259	133.82
	United States.....do.....	340	84.67
	Total.....do.....	1,599	218.49
Cashew	United States.....package...	1	7.29
Nutmegs	.....do.....do.....	1	33.08
Orange juice	.....do.....gallons...	1,108	817.52

Table showing the exports from Jamaica for the year ended March 31, 1891—Continued.

Articles.	Whither exported.	Quantity.	Value.
Pimento	United Kingdom.....cwts...	54,495	$238,681.97
	Canada.....do.....	201	881.23
	France.....do.....	1,137	4,981.97
	Germany.....do.....	4,211	18,444.76
	Austria.....do	57	249.89
	Holland.....do.....	355	1,555.88
	Italy.....do.....	132	577.58
	Foreign states.....do.....	3	13.76
	United States.....do.....	29,770	130,388.62
	Total.....do.....	90,361	395,775.66
Plants:			
Growing bananas	United States.....packages...	1	2.67
	British Guiana.....do.....	297	443.58
	British West Indies.....do.....	50	136.26
	Total.....do.....	348	582.51
Canes	Canada.....bundle...	1	9.73
	British West Indies.....	.....	12.16
	United States.....bundles..	225	55.74
	Total.....do.....	226	77.63
Pine suckers	West Indies.....number...	10,000	194.66
Growing orchids	United Kingdom.....do.....	4	48.66
	United States... .....do.....	2	24.33
	Total.....do.....	6	72.99
Unenumerated	United Kingdom.....packages...	16	153.29
	British West Indies.....do.....	13	179.08
	United States.....do.....	7	14.59
	Haiti.....do.....	1	4.87
	Foreign West Indies.....do.....	1	38.93
	Foreign states.....do.....	6	14.59
	Total .....do.....	44	405.34
Preserves:			
Succades	United Kingdom.....cwts...	41	1,114.78
Other sorts	..... do.....number..	48	842.33
	British West Indies.....do.....	2	51.09
	United States.....do.....	2	14.59
	Germany.....do.....	1	24.33
	Total .....do.....	53	932.34
Rum	United Kingdom.....gallons...	1,402,630	853,237.36
	Canada.....do.....	6,665	4,297.71
	British West Indies.....do.....	17,038	10,364.42
	British Honduras.....do.....	1,142	694.69
	France.....do.....	5,896	3,586.60
	Germany.....do.....	39,232	23,865.31
	Italy.....do.....	10	6.07
	Austria.....do.....	1,130	687.38
	Russia .....do.....	15	9.11
	Haiti.....do.....	33	20.06
	Foreign West Indies.....do.....	810	492.72
	Foreign states.....do.....	75,238	45,768.21
	United States.....do.....	43,745	26,610.62
	Total.....do.....	1,593,584	969,640.26

Table showing the exports from Jamaica for the year ended March 31, 1891—Continued.

Articles.	Whither exported.	Quantity.	Value.
Seeds, garden and other	United Kingdom.....packages	2	$29.19
	British West Indies.....do	2	9.73
	Foreign states.....do	2	24.33
	Total.....do	6	63.25
Sheep's wool	United Kingdom.....pounds	21,597	1,751.68
	United States.....do	1,507	122.22
	Total.....do	23,104	1,873.90
Skins, goat	United Kingdom.....do	998	241.83
	United States.....do	34,059	8,287.40
	Germany.....do	1,235	300.50
	Total.....do	36,292	8,829.73
Spars, lancewood	United Kingdom.....number	25,790	37,652.11
	British West Indies.....do	1,020	1,489.14
	Total.....do	26,810	39,141.25
Spirits:			
Compounds and cordials	British West Indies.....gallons	159	154.75
	British Guiana.....do	12	11.67
	Foreign states.....do	998	971.34
	Total.....do	1,169	1,137.76
Ginger wine	Canada.....do	30	29.19
	British West Indies.....do	8	7.78
	Foreign states.....do	54	52.55
	Total.....do	92	89.52
Orange wine	Canada.....do	8	7.78
	British West Indies.....do	69	67.15
	British Guiana.....do	112	109.00
	Foreign states.....do	167	162.53
	Total.....do	356	346.46
Sticks, walking	United Kingdom.....	.....	4,753.72
	United States.....	.....	291.50
	Germany.....	.....	385.93
	Total.....	.....	5,431.15
Sugar	United Kingdom.....cwts	21,817	65,357.27
	Canada.....do	33,551	102,048.95
	British West Indies.....do	3,033	9,226.18
	United States.....do	315,125	958,471.72
	France.....do	8	24.24
	Germany.....do	5	13.68
	Italy.....do	1	2.71
	Belgium.....do	5	15.20
	Russia.....do	2	7.21
	Haiti.....do	3	7.59
	Foreign states.....do	4,351	13,234.54
	Total.....do	377,901	1,149,409.29
Tamarinds	United Kingdom.....pounds	1,454	287.12
	United States.....	.....	2.43
	Foreign states.....pounds	219	17.51
	Total.....do	1,673	307.06

Table showing the exports from Jamaica for the year ended March 31, 1891—Continued.

Articles.	Whither exported.	Quantity.	Value.
Tinware	Foreign states.....package	1	$3.65
Tobacco:			
Cigars	United Kingdom.....pounds	1,162	2,827.43
	Canada.....do	392	953.82
	British West Indies.....do	3,894	9,476.28
	British Guiana.....do	287	698.33
	United States.....do	770	1,873.60
	Haiti.....do	125	304.15
	Foreign West Indies.....do	40	97.33
	Foreign states.....do	4,222	10,273.18
	Total.....do	10,892	26,504.12
Cigarettes	Foreign states.....do	986	737.50
Snuff	.....do.....package	1	48.67
Tortoise shells	United Kingdom		1,388.65
	United States		1,783.56
	Germany		4.86
	Total		3,177.07
Turtles:			
Live	United Kingdom.....number	2,177	17,968.08
	United States.....do	6	30.40
	Total.....do	2,183	17,998.48
Dried	United Kingdom.....pounds	9,308	5,211.77
Skins	United States.....do	189	204.39
Unenumerated	British West Indies.....packages	23	62.67
	United States.....do	9	24.33
	Foreign states.....do	1	1.92
	Total.....do	33	89.22
Vegetables:			
Beans	United States.....bushels	4	6.25
Cucumbers	.....do.....crates	392	417.17
Pears	.....do		38.93
Plantains	.....do.....bunches	852	258.52
Pumpkins	.....do.....number	1,467	183.58
Tomatoes	.....do.....crates	899	1,103.04
Yams	United Kingdom.....cwts	14	32.88
	British West Indies.....do	134	325.78
	United States.....do	1	3.60
	France.....do	3	7.69
	Foreign states.....do	536	1,303.70
	Total.....do	688	1,673.65
Wood:			
Bitter	United Kingdom.....tons	815	7,935.79
	United States.....do	109	1,057.48
	Total.....do	924	8,993.27
Cedar	United States.....do	4	48.66
Cocus	United Kingdom.....do	55	552.82
Cogwood	United States.....do	1	9.73
Ebony	United Kingdom.....do	384	5,143.03
	United States.....do	113	1,504.89
	France.....do	3	45.49
	Total.....do	500	6,693.41

Table showing the exports from Jamaica for the year ended March 31, 1891—Continued

Articles.	Whither exported.	Quantity.	Value.
Wood—Continued.			
Fustic	United Kingdom.....tons	818	$10,943.17
	United States.....do	132	1,771.21
	Total.....do	950	12,414.38
Logwood	United Kingdom.....do	56,510	962,518.14
	Canada.....do	30	510.98
	British West Indies.....do	7	115.81
	United States.....do	22,989	374,527.90
	France.....do	13,508	230,080.93
	Germany.....do	9,422	160,490.22
	Italy.....do	1,146	19,526.33
	Belgium.....do	424	7,291.88
	Holland.....do	597	10,168.54
	Austria.....do	300	5,109.82
	Russia.....do	5,350	91,125.21
	Total.....do	109,283	1,861,395.76
Lignum-vitae	United Kingdom.....do	103	1,125.06
	Canada.....do	15	163.14
	British West Indies.....do	1	14.23
	United States.....do	21	229.93
	France.....do	65	711.16
	Total.....do	205	2,243.49
Mahoe	United Kingdom.....do	11	1,567.01
Mahogany	.....do.....logs	5	48.66
Satin	.....do.....tons	243	5,910.36
	United States.....do	12	291.99
	Total.....do	255	6,202.35
Pimento	United States.....pieces	2	8.51
Unenumerated	British West Indies	.....	9.73
	United Kingdom	.....	48.66
	Total	.....	58.39
	Grand total	.....	8,794,176.69

RÉSUMÉ OF EXPORTS.

United Kingdom	$2,975,842.55
Canada	201,689.61
British West Indies	60,278.52
British Honduras	727.26
British Guiana	1,682.42
Italy	42,848.18
France	282,031.22
Germany	253,934.61
Austria	13,545.46
Belgium	7,237.08
Holland	25,805.07
Russia	91,157.82
United States	4,751,444.34
Foreign West Indies	2,524.18
Haiti	3,053.29
Foreign states	80,375.08
Total	8,794,176.69

SHIPPING.

Table showing the number, tonnage, and crews of sailing vessels entered at ports of Jamaica by countries in the year 1888–'89.

Countries.	British.								
	With cargo.			In ballast.			Total.		
	No.	Tons.	Crews.	No.	Tons.	Crews.	No.	Tons.	Crews.
United Kingdom	4	2,230	62	.....	.....	.....	4	2,230	62
British Africa	.....	.....	.....	2	675	20	2	675	20
British Guiana	.....	.....	.....	1	413	11	1	413	11
Canada	56	7,358	382	.....	.....	.....	56	7,358	382
British West Indies	72	3,720	479	36	7,216	256	108	10,936	735
Argentine Republic	.....	.....	.....	5	2,196	55	5	2,196	55
Brazil	.....	.....	.....	4	1,194	35	4	1,194	35
Danish West Indies	.....	.....	.....	2	542	17	2	542	17
French West Indies	1	88	7	4	832	27	5	920	34
Mexico	.....	.....	.....	1	262	8	1	262	8
Nicaragua	3	198	21	.....	.....	.....	3	198	21
Spanish West Indies	2	87	14	2	453	15	4	540	29
United States	14	2,283	109	.....	.....	.....	14	2,283	109
Colombia	2	89	16	.....	.....	.....	2	89	16
Venezuela	.....	.....	.....	1	720	16	1	720	16

Countries.	Foreign.								
	With cargo.			In ballast.			Total.		
	No.	Tons.	Crews.	No.	Tons.	Crews.	No.	Tons.	Crews.
United Kingdom	11	4,632	112	2	1,081	24	13	5,713	136
British Africa	.....	.....	.....	12	5,694	126	12	5,694	126
British Guiana	1	460	12	15	5,891	148	16	6,351	160
British West Indies	1	381	9	55	23,551	549	56	23,932	558
Argentine Republic	.....	.....	.....	22	10,966	249	22	10,966	249
Brazil	.....	.....	.....	27	12,291	292	27	12,291	292
Danish West Indies	.....	.....	.....	6	1,844	53	6	1,844	53
Dutch West Indies	.....	.....	.....	2	450	16	2	450	16
France	.....	.....	.....	3	1,500	36	3	1,500	36
French Africa	.....	.....	.....	2	826	21	2	826	21
French West Indies	.....	.....	.....	18	6,494	164	18	6,494	164
Haiti	3	46	18	2	58	14	5	104	32
Mexico	.....	.....	.....	5	1,717	45	5	1,717	45
Nicaragua	.....	.....	.....	4	1,688	38	4	1,688	38
Spain	.....	.....	.....	1	287	7	1	287	7
Spanish West Indies	.....	.....	.....	8	3,150	81	8	3,150	81
United States	40	8,756	283	3	698	20	43	9,454	303
Colombia	1	292	9	8	2,994	69	9	3,286	78
Venezuela	.....	.....	.....	2	615	16	2	615	16

Table showing the number, tonnage, and crews of sailing vessels entered, etc.—Continued.

Countries.	Total.								
	With cargo.			In ballast.			Total.		
	No.	Tons.	Crews.	No.	Tons.	Crews.	No.	Tons.	Crews.
United Kingdom	15	6,862	174	2	1,081	24	17	7,943	198
British Africa	.....	.....	.....	14	6,369	146	14	6,369	146
British Guiana	1	460	12	16	6,304	159	17	6,764	171
Canada	56	7,358	382	.....	.....	.....	56	7,358	382
British West Indies	73	4,101	488	91	30,767	805	164	34,868	1,293
Argentine Republic	.....	.....	.....	27	13,162	304	27	13,162	304
Brazil	.....	.....	.....	31	13,485	327	31	13,485	327
Danish West Indies	.....	.....	.....	8	2,386	70	8	2,386	70
Dutch West Indies	.....	.....	.....	2	450	16	2	450	16
France	.....	.....	.....	3	1,500	36	3	1,500	36
French Africa	.....	.....	.....	2	826	21	2	826	21
French West Indies	1	88	7	22	7,326	191	23	7,414	198
Haiti	3	46	18	2	58	14	5	104	32
Mexico	.....	.....	.....	6	1,979	53	6	1,979	53
Nicaragua	3	198	21	4	1,688	38	7	1,886	59
Spain	.....	.....	.....	1	287	7	1	287	7
Spanish West Indies	2	87	14	10	3,603	96	12	3,690	110
United States	54	11,039	392	3	698	20	57	11,737	412
Colombia	3	381	25	8	2,994	69	11	3,375	95
Venezuela	.....	.....	.....	3	1,335	32	3	1,335	32

Table showing the number, tonnage, and crews of sailing vessels cleared at ports of Jamaica by countries in the year 1888–'89.

Countries.	British.								
	With cargoes.			In ballast.			Total.		
	No.	Tons.	Crews.	No.	Tons.	Crews.	No.	Tons.	Crews.
United Kingdom	22	9,111	242	.....	.....	.....	22	9,111	242
British Honduras	1	55	7	1	463	12	2	518	19
Canada	24	3,064	164	6	747	40	30	3,811	204
British West Indies	66	3,470	402	25	2,025	149	91	5,495	551
France	1	513	13	.....	.....	.....	1	513	13
Germany	1	409	10	.....	.....	.....	1	409	10
Holland	1	598	13	.....	.....	.....	1	598	13
Mosquito Territory	3	187	18	.....	.....	.....	3	187	18
Nicaragua	2	106	19	.....	.....	.....	2	106	19
Spanish West Indies	1	162	7	1	123	7	2	288	14
United States	33	6,416	259	.....	.....	.....	33	6,416	259
Colombia	28	1,028	185	.....	.....	.....	28	1,028	185

Table showing the number, tonnage, and crews of sailing vessels cleared, etc.—Continued.

Countries.	Foreign.								
	With cargoes.			In ballast.			Total.		
	No.	Tons.	Crews.	No.	Tons.	Crews.	No.	Tons.	Crews.
United Kingdom	96	44,217	1,018	.....	.....	.....	96	44,217	1,018
British West Indies	11	4,866	16	1	366	7	12	5,232	123
Austria	2	1,050	23	.....	.....	.....	2	1,050	23
Belgium	2	634	19	.....	.....	.....	2	634	19
France	24	10,155	248	.....	.....	.....	24	10,155	248
Germany	18	7,164	176	.....	.....	.....	18	7,164	176
Haiti	5	104	28	.....	.....	.....	5	104	28
Italy	2	805	20	.....	.....	.....	2	805	20
Mexico	.....	.....	.....	1	381	9	1	381	9
Nicaragua	3	567	31	.....	.....	.....	3	567	31
Russia	8	3,248	81	.....	.....	.....	8	3,248	81
Spanish West Indies	1	255	9	.....	.....	.....	1	255	9
Sweden	2	825	19	.....	.....	.....	2	825	19
Switzerland	1	352	10	.....	.....	.....	1	352	10
United States	72	19,268	549	6	1,483	40	78	20,751	589

Countries.	Total.								
	With cargoes.			In ballast.			Total.		
	No.	Tons.	Crews.	No.	Tons.	Crews.	No.	Tons.	Crews.
United Kingdom	118	53,328	1,260	.....	.....	.....	118	53,328	1,260
British Honduras	1	55	7	1	463	12	2	518	19
Canada	24	3,064	164	6	747	40	30	3,811	204
British West Indies	77	8,336	518	26	2,391	156	103	10,727	674
Austria	2	1,050	23	.....	.....	.....	2	1,050	23
Belgium	2	634	19	.....	.....	.....	2	634	19
France	25	10,668	261	.....	.....	.....	25	10,668	261
Germany	19	7,573	186	.....	.....	.....	19	7,573	186
Holland	1	598	13	.....	.....	.....	1	598	13
Haiti	5	104	28	.....	.....	.....	5	104	28
Italy	2	805	20	.....	.....	.....	2	805	20
Mexico	.....	.....	.....	1	381	9	1	381	9
Mosquito Territory	3	187	18	.....	.....	.....	3	187	18
Nicaragua	5	673	50	.....	.....	.....	5	673	50
Russia	8	3,248	81	.....	.....	.....	8	3,248	81
Spanish West Indies	2	417	16	1	123	7	3	540	23
Sweden	2	825	19	.....	.....	.....	2	825	19
Switzerland	1	352	10	.....	.....	.....	1	352	10
United States	105	25,684	808	6	1,483	40	111	27,167	848
Colombia	28	1,028	185	.....	.....	.....	28	1,028	185

Table showing the number, tonnage, and crews of steamers entered at ports of Jamaica by countries in the year 1888–'89.

Countries.	British.								
	With cargoes.			In ballast.			Total.		
	No.	Tons.	Crews.	No.	Tons.	Crews.	No.	Tons.	Crews.
United Kingdom	55	87,400	3,377	1	294	28	56	86,794	3,405
Canada	12	6,156	365	.....	.....	.....	12	6,156	365
British Honduras	1	1,013	39	.....	.....	.....	1	1,013	39
British West Indies	.....	.....	.....	3	2,471	78	3	2,471	78
Brazil	1	1,098	27	.....	.....	.....	1	1,098	27
Danish West Indies	1	498	52	.....	.....	.....	1	498	52
French West Indies	1	716	18	1	454	20	2	1,170	38
Haiti	36	41,365	1,326	3	2,849	81	39	44,214	1,407
Mexico	6	6,993	275	.....	.....	.....	6	6,993	275
Nicaragua	3	2,956	123	.....	.....	.....	3	2,956	123
Spanish West Indies	6	5,153	208	1	667	25	7	5,820	233
United States	203	137,513	5,555	36	14,471	629	239	151,984	6,184
Colombia	36	70,806	3,131	.....	.....	.....	36	70,806	3,131

Countries.	Foreign.								
	With cargoes.			In ballast.			Total.		
	No.	Tons.	Crews.	No.	Tons.	Crews.	No.	Tons.	Crews.
United Kingdom	2	1,896	46	.....	.....	.....	2	1,896	46
British West Indies	1	514	20	.....	.....	.....	1	514	20
Brazil	1	3,396	51	.....	.....	.....	1	3,396	51
Haiti	.....	.....	.....	1	779	3	1	779	3
Mexico	.....	.....	.....	1	558	16	1	558	16
Spanish West Indies	1	135	16	.....	.....	.....	1	135	16
United States	31	17,852	601	6	2,608	100	37	20,460	701
Colombia	.....	.....	.....	1	768	20	1	768	20

Countries.	Total.								
	With cargoes.			In ballast.			Total.		
	No.	Tons.	Crews.	No.	Tons.	Crews.	No.	Tons.	Crews.
United Kingdom	57	89,296	3,423	1	294	28	58	89,590	3,451
Canada	12	6,156	365	.....	.....	.....	12	6,156	365
British Honduras	1	1,013	39	.....	.....	.....	1	1,013	39
British West Indies	1	514	20	3	2,471	78	4	2,985	98
Brazil	2	4,494	78	.....	.....	.....	2	4,494	78
Danish West Indies	1	498	52	.....	.....	.....	1	498	52
French West Indies	1	716	18	1	454	20	2	1,170	38
Haiti	36	41,365	1,326	4	3,628	84	40	44,993	1,410
Mexico	6	6,993	275	1	558	16	7	7,551	291
Nicaragua	3	2,956	123	.....	.....	.....	3	2,956	123
Spanish West Indies	7	5,288	224	1	667	25	8	5,955	249
United States	234	155,365	6,156	42	17,079	729	276	172,444	6,885
Colombia	36	70,806	3,131	1	768	20	37	71,574	3,151

Table showing the number, tonnage, and crews of steamers cleared at ports of Jamaica by countries in the year 1888–'89.

Countries.	British.								
	With cargoes.			In ballast.			Total.		
	No.	Tons.	Crews.	No.	Tons.	Crews.	No.	Tons.	Crews.
United Kingdom	37	64,684	2,890	.....	.....	.....	37	64,684	2,890
Canada	7	3,598	214	.....	.....	.....	7	3,598	214
British West Indies	6	5,379	160	.....	.....	.....	6	5,379	160
Danish West Indies	2	1,936	77	.....	.....	.....	2	1,936	77
Haiti	25	31,443	922	.....	.....	.....	25	31,443	922
Mexico	6	6,685	206	.....	.....	.....	6	6,685	206
Nicaragua	27	28,030	988	.....	.....	.....	27	28,030	988
Norway	1	1,013	34	.....	.....	.....	1	1,013	34
Spanish West Indies	7	5,898	207	1	366	16	8	6,264	223
United States	256	114,397	5,464	7	6,166	139	263	150,563	5,603
Colombia	50	83,932	3,611	.....	.....	.....	50	83,932	3,611

Countries.	Foreign.								
	With cargoes.			In ballast.			Total.		
	No.	Tons.	Crews.	No.	Tons.	Crews.	No.	Tons.	Crews.
France	1	374	8	.....	.....	.....	1	374	8
Spanish West Indies	1	514	21	1	419	16	2	933	37
United States	38	29,438	733	.....	.....	.....	38	29,438	733
Colombia	.....	.....	.....	1	103	13	1	103	13

Countries.	Total.								
	With cargoes.			In ballast.			Total.		
	No.	Tons.	Crews.	No.	Tons.	Crews.	No.	Tons.	Crews.
United Kingdom	37	64,684	2,890	.....	.....	.....	57	64,684	2,890
Canada	7	3,598	214	.....	.....	.....	7	3,598	214
British West Indies	6	5,379	160	.....	.....	.....	6	5,379	160
Danish West Indies	2	1,936	77	.....	.....	.....	2	1,936	77
France	1	374	8	.....	.....	.....	1	374	8
Haiti	25	31,443	922	.....	.....	.....	25	31,443	922
Mexico	6	6,685	206	.....	.....	.....	6	6,685	206
Nicaragua	27	28,030	988	.....	.....	.....	27	28,030	988
Norway	1	1,013	34	.....	.....	.....	1	1,013	34
Spanish West Indies	8	6,412	228	2	785	32	10	7,197	260
United States	294	173,835	6,197	7	6,166	139	301	180,001	6,336
Colombia	50	83,932	363	1	103	13	51	84,035	3,624

Table showing the number, tonnage, and crews of sailing vessels entering and clearing the ports of Jamaica according to flag in the year 1888–'89.

ENTERED.

Flag.	With cargoes.			In ballast.			Total.		
	No.	Tons.	Crews.	No.	Tons.	Crews.	No.	Tons.	Crews.
American	39	8,448	271	35	10,826	274	74	19,274	545
Argentine	.....	.....	.....	1	374	8	1	374	8
Austrian	.....	.....	.....	10	5,197	114	10	5,197	114
British	28	5,480	238	36	12,710	352	64	18,190	590
British possessions	126	10,573	852	22	1,793	108	148	12,366	960
Danish	.....	.....	.....	3	1,066	31	3	1,066	31
Dutch	1	393	10	.....	.....	.....	1	393	10
French	2	1,190	27	6	2,340	66	8	3,530	93
German	.....	.....	.....	9	3,890	97	9	3,890	97
Haitian	3	46	18	2	158	14	5	204	32
Italian	1	120	7	2	1,171	24	3	1,291	31
Norwegian	7	3,011	70	94	41,927	979	101	44,938	1,049
Russian	1	230	10	6	2,318	60	7	2,548	70
Swedish	3	1,129	30	29	12,528	301	32	13,657	331

CLEARED.

American	74	19,079	552	7	1,849	47	81	20,847	599
Austrian	8	3,850	89	.....	.....	.....	8	3,850	89
British	76	18,966	667	9	1,376	67	85	20,342	734
British possessions	107	6,153	672	24	1,982	141	131	8,135	813
Danish	3	1,066	31	.....	.....	.....	3	1,066	31
Dutch	1	393	10	.....	.....	.....	1	393	10
French	6	2,734	73	.....	.....	.....	6	2,734	73
German	8	3,757	87	.....	.....	.....	8	3,757	87
Haitian	5	104	28	.....	.....	.....	5	104	28
Italian	3	1,292	32	.....	.....	.....	3	1,292	32
Norwegian	94	41,073	960	1	381	9	95	41,454	969
Nicaraguan	1	137	16	.....	.....	.....	1	137	16
Portuguese	1	370	13	.....	.....	.....	1	370	13
Russian	5	1,914	50	.....	.....	.....	5	1,914	50
Swedish	38	17,741	406	.....	.....	.....	38	17,741	406

Table showing the number, tonnage, and crews of steamers entering and clearing the ports of Jamaica according to flag in the year 1888–'89.

ENTERED.

Flag.	With cargoes.			In ballast.			Total.		
	No.	Tons.	Crews.	No.	Tons.	Crews.	No.	Tons.	Crews.
American	10	5,932	190	2	883	16	12	6,815	206
British	358	360,128	14,403	45	21,206	861	403	381,334	15,264
British possessions	3	1,539	93	.....	.....	.....	3	1,539	93
Dutch	1	419	16	.....	.....	.....	1	419	16
German	5	4,549	130	2	1,282	40	7	5,831	170
Italian	1	3,396	51	.....	.....	.....	1	3,396	51
Norwegian	18	9,362	331	5	2,548	83	23	11,910	414
Colombian	1	135	16	.....	.....	.....	1	135	16

Table showing the number, tonnage, and crews of steamers, etc.—Continued.

CLEARED.

Flag.	With cargo.			In ballast.			Total.		
	No.	Tons.	Crews.	No.	Tons.	Crews.	No.	Tons.	Crews.
American	11	6,600	210	1	103	13	12	6,703	223
Argentine	1	374	8	.....	.....	.....	1	374	8
British	424	374,995	14,773	8	6,532	155	432	381,527	14,928
Dutch	.....	.....	.....	1	419	16	1	419	16
German	9	6,606	170	.....	.....	.....	9	6,606	170
Italian	1	3,396	51	.....	.....	.....	1	3,396	51
Norwegian	18	13,350	323	.....	.....	.....	18	13,350	323

W. R. ESTES,
Consul.

UNITED STATES CONSULATE,
Kingston, July 30, 1890.

SULPHUR-MINING IN SICILY.

REPORT BY CONSUL HEATH, OF CATANIA.

The mining and fusing of sulphur ore in Sicily has been carried on for a great many years, but from lack of enterprise and for want of outside capital, which can not be induced to invest in any enterprise on the island, the mining and fusing is still carried on in the most primitive fashion. In the majority of mines machinery is unknown, and in the larger and more valuable ones only pumps and hoisting apparatus are used. Hand labor is universal, and a great many children find employment in carrying in baskets on the head the mineral from the mine to the surface.

There are practically four systems of melting sulphur in Sicily—the Calcherone, the Sinopoli furnace, the steam process, and Gill's furnace. The first two are most largely used, because it requires little or no capital to fuse in this way. They have a great many disadvantages, however, viz: The fumes kill or ruin all vegetation for miles in the vicinity; the sulphur rock being used for fuel in these processes, a large percentage of sulphur is consequently consumed, besides about 10 per cent. is still left in the mineral rock; then the product is not so valuable as in the other processes.

The steam process is a great improvement on the first two, but can only be used where the mineral is very rich and porous. No fumes escape to destroy vegetation, and the product is of a better quality. This process is comprised of large iron tubes filled with mineral, into which dry steam is injected.

Official experiments in two of the processes give the following results: Four cubic metres of mineral melted by the steam process have yielded 1,031 kilogrammes of sulphur; 4 cubic metres of mineral melted by the Calcherone process have yielded 932 kilogrammes of sulphur.

Gill's, an English process, has been tried extensively on the island, but, I am now informed, is no longer used, because it requires skilled assistance and only a small quantity of mineral can be treated at a time.

The Leon Gil y Ruiz patent Spanish process seems to be the most scientific and to give the best results. It has obtained the following perfection: Mineral for trial was chemically analyzed and found to contain 15 per cent. of sulphur; the product by Leon Gil's furnace was 12.22 per cent. of sulphur and by the Calcherone process 5.6 per cent., thus leaving in the mineral only 3.79 per cent. of sulphur, instead of 9.4 per cent. by the Calcherone. The estimated cost per day of running a battery of thirty-two furnaces of the Leon Gil's patent is:

	Lire.
Four firemen, at 2 lire each	8.00
One engine-driver	4.80
Coal	46.10
Oil	3.75
Sundries	1.35
Cleansing steam-boilers	.70
Repairs, machinery, and ventilator	5.00
Total	69.70

In opening a mine in the United States to produce sulphur in competition with the Sicilian product, two facts must be borne in mind—first, that the pay of labor is very low in Sicily, and, second, that freight is equally low from Sicily to all seaports. Steamer freights for sulphur to New York, Philadelphia, and Boston are often lower than by sailing vessel, because the fruit steamers must have some heavy cargo or ballast. In a recent report I mentioned that the freight on a box of oranges from Catania to New York was only one-fourth of the freight on a similar box of oranges from Tampa, Fla., to New York. The steamers from here make their profit on the orange and lemon freights, and are willing to lose money on the sulphur freight, for the reason that they must have ballast.

I append a letter from the United States consular agent at Licata, and also one from his engineer, explaining the Sinopoli furnace. Mr. Verderame is the owner of sulphur mines and speaks from actual knowledge.

CONSULAR AGENT VERDERAME TO CONSUL HEATH.

In reply to your dispatch of the 10th instant, I beg to state that it will be a real pleasure for me to render such services as you may require of me. It is not easy to give an exact and full reply to the questions asked in the above letter, but I will try to answer them as fully as I can.

You will, very likely, have observed personally that the mining industry in Sicily is still in its infancy, and it is well for me to add that, in my opinion, this industry is condemned to never make great improvements, for the simple reason that brimstone is generally found in such small seams or veins as to render it unwise to incur the expenses of mechanical or outfit gearings for regular work. Daily experience proves that it is foolish to rely too much on the richness and importance of a sulphur vein, which may change from one moment to the other, causing the total loss of the investments made. There are very few mines in Sicily deserving the expense of a regular and complete outfit, and in the best cases the greatest economy must be used, always bearing in mind that a sulphur mine worked with activity will not last long.

The cost of mining can not be stated with exactness, because all the mines do not present the same difficulties. In fact, many of them are from 200 to 300 metres deep, while others can be worked at from 20 to 30 metres below the surface of the earth. The quantity of water to be pumped out, the hardness of the materials covering the brimstone ore, and the direction and dimension of the seams cause greater or less expenses. Nevertheless, I think I am not very far from the truth when I state that the mean cost for obtaining a ton of brimstone is as follows:

	Lire.
Mining and hoisting	33
Melting	8
General expenses	5
Total	46

To this should be added the Government and town dues, reaching as high as 30 per cent. of the profits.

The transportation to the seaports is made partly by carts and mules and partly by railway. The freight varies according to distance. The shipping expenses have not varied much during the last 3 years, and are as follows:

		Lire.
Cartage from the railway car and storage in warehouses	per ton	0.80
Transportation on lighters	do	2.10
Customs dues		12.00
Chamber of commerce dues		.25

The commission of the shipping agent is 1½ per cent.

Crude brimstone, as exported to the United States, is divided into seven different qualities, or grades. The difference between two such grades amounts to little more than 30 cents per ton.

The market price of brimstone changes daily, and, therefore, it is not easy to state the exact price which has ruled during the last 3 years. But we may reckon that the prices during 1888–'89 remained nearly steady at about 71 lire per ton, free on board, duties and commission extra. During last year the price ranged from 66 lire in the first months to as high as 101 lire in the last months.

Sulphur in Sicily is only refined in Catania; therefore, you can obtain personally full information on the different methods in use.

The Sinopoli furnace, mentioned in your dispatch, seems to have given very satisfactory results. Inclosed you will find a letter with a full and complete description of this furnace.

ARTHUR VERDERAME,
Consular Agent.

UNITED STATES CONSULAR AGENCY,
Licata, July 15, 1891.

ENGINEER INGRIA TO CONSULAR AGENT VERDERAME.

I answer with some delay your letter asking for a description of the Sinopoli furnace, as important business has prevented me from doing so earlier.

The Sinopoli furnace is composed of six or more cells, with vertical walls made of iron plates, into which the mineral is placed. These cases are about 2 metres long, 3 metres high, and 0.25 metre wide, and are placed one upon the other, separated by a space of 12 centimetres. They are walled within an oven around which are two fireplaces at different levels. The heat enters from the upper part into the above-mentioned space of 12 centimetres, and, passing over the walls of the cells, increases the temperature to the melting point.

After the cells are filled with broken mineral, they are covered with a stratum of wet chalk, with a hole in each box. These holes are used as outlets for the vapors and gases contained in the mineral. Fire is then started, and, after all vapors and gases are allowed to

escape, the intensity of the fire is diminished, continuing so for 16 hours. When the fire is out the melted mineral commences to flow off from the front wall of the cell through a hole punctured in its lower part.

About 30 hours are needed for the whole operation. The mineral contained in the six cells ordinarily does not exceed 75 tons, but, by increasing the number of cells and consequently the width of the furnace, the quantity of the mineral increases in proportion.

According to Engineer Mattura's experiments, the following results have been obtained: Average yield with the Calcherone system (the old system), 13.5 per cent.; average yield with the Sinopoli system, 20 per cent.; increase, 6.5 per cent., which, at the price of 8.50 lire per 100 kilogrammes in the mine, would bring a profit of 2.09 lire, besides the improved quality.

Engineer Mattura submitted to the ministry of agriculture, industry, and commerce the following modifications, adapted to the improvement of the above furnace: (1) Two furnaces should be built under the same shed; (2) between the walls joining these two furnaces four *cunicoli* should be constructed, two in the upper and two in the lower part, in order to receive the product of the combustion and to increase the heating surface; (3) the walls should be constructed of cast-iron and made with a capacity of 2 metres each. The cases, as a trial, were made of cast-iron, but they did not last long, because after a few operations they were spoiled. The cost of one of these furnaces would amount to 12,000 lire.

Engineer Mattura says: "The Sinopoli apparatus presents all the advantages of the steam one, that is, the mineral can be treated at any time of the year, giving at the same time better and increased production."

R. INGRIA,
Engineer.

SERADIFALCO, *July 16, 1891.*

COSTS OF MINING, TRANSPORTATION, ETC.

Mining.—The cost of mining varies with each mine and with the richness of the mineral. A very low approximative cost is $9 per ton.

The estimate of $9 per ton is for mining and bringing to the surface the mineral and fusing it on the spot ready for market.

Refining sulphur is another branch of the trade. The process and costs are kept secret.

Transportation.—The cost of transportation varies in each mine. The modes are by railroad, when the mine is in the vicinity, by mule back, and by private narrow-gauge railroads from some of the richest mines.

Exporting.—In Catania lighterage or cartage is about 10 lire per ton. The export duty is 10 lire per ton.

Prices.—Prices to-day for all grades of Licata sulphur, unmixed, in store at Catania, are as follows per 100 kilogrammes:

Description.	Price.	Description.	Price.
	Lire.		*Lire.*
First grade (best)	10.71	Third grade:	
Second grade:		Best	9.85
Best	10.57	Good	9.77
Good	10.44	Current	8.70
Current	10.12		

The highest and lowest prices for third-grade (best) sulphur, in store at Catania, during the various months of the last 3 years was as follows:

Month.	Price.	Month.	Price.
1889.	*Lire.*	1890—Continued.	*Lire.*
January	8.61 to 8.45	May	9.01
February	8.91 to 9.01	June	8.99 to 8.97
March	8.87 to 8.85	July	8.96 to 8.91
April	8.90 to 8.83	August	8.95 to 8.91
May	8.84 to 8.24	September	8.49 to 8.48
June	9.35 to 9.02	October	8.51 to 8.43
July	8.75 to 8.71	November	8.57 to 8.44
August	8.90 to 8.85	December	8.90 to 8.67½
September	8.80 to 8.79	1891.	
October	8.60 to 8.53	January	9.48 to 9.37
November	9.00 to 8.93	February	9.51 to 9.50
December	8.97	March	9.41 to 9.40
1890.		April	9.23 to 9.21
January	8.90 to 8.86	May	9.27 to 9.11
February	8.87 to 8.86	June	9.04 to 9.03
March	9.05 to 9.04	July	9.37 to 9.23
April	9.23 to 9.21		

BUSINESS METHODS.

The merchants in Sicily make a price, cost, and freight against London bankers' credits. They first get refusal for the quantity desired from the warehouse owners, and, as the freight is an unknown quantity in transactions by cable, the merchants generally claim the option of shipping at any time during 60 days.

EXPORTERS.

Some of the principal exporters of Sicilian sulphur are: J. Ritter, Catania; Alonzo & Consoli, Catania; P. Marans, Catania; F. Baller & Co., Messina; E. Fog & Son, Messina; Carlo Wedekind & Co., Palermo; Young Bros., Palermo. These parties will furnish market reports if stamp is inclosed for reply.

Sulphur is always shipped from Catania, Licata, and Girgenti. The principal shipping merchants are at Catania and Messina.

SUPPLEMENTARY REPORT.

Mr. Edward A. Oates, of Porto Empedocle, the leading statistician on sulphur products, has kindly given me the following information:

In reply to your letter of the 8th of July last, I beg to inclose to you the figures of average cost of brimstone at this port for 1888, 1889, 1890, and the first 6 months of this year and a brief report on the various methods employed for refining sulphur, which has been handed to me by the Government mining engineer.

The cost of shipping sulphur from this port is about 4 lire per ton.

I am sorry I can not state the cost of mining and refining sulphur, as it changes according to the depth of the mine, whether hoisted by machine or carried by men, and the hardness of the mineral.

Table showing the average prices of Licata sulphur in the years 1888, 1889, 1890, and the first 6 months of 1891, free on board at Porto Empedocle.

Year.	First grade.	Second grade.			Third grade.			
		Best.	Good.	Current.	Best.	Best.	Good.	Current.
	Lire.	*Lire.*	*Lire.*	*Lire.*	*Lire.*	*Lire.*	*Lire.*	*Lire.*
1888	5.59	5.54	5.49	5.43	5.28	5.24	5.21	5.11
1889	5.57	5.53	5.49	5.45	5.21	5.15	5.11	5.08
1890	6.48	6.43	6.39	6.35	6.16	6.09	6.02	5.88
1891 (first 6 months)	9.55	9.50	9.44	9.37	9.09	9.01	8.93	8.67

The following is the report on methods for refining sulphur, by the Italian Government mining engineer:

THE CALCHERONE.

This process is the one mostly used. In the province nearly 65 per cent. of the sulphur is obtained through the Calcherone, because it offers the great advantage of little expense in building, and even the cost of fusing is greatly reduced, thus obtaining a good product in a very short time. It can be made of any size and capacity, from 40 or 50 cubic metres to 250 and even 300 cubic metres.

GILL'S FURNACE.

The use of Gill's furnace is extending rapidly, as it is found of great advantage in small, as well as in large, mines. About 25 per cent. of the sulphur produced in the province is obtained by this system. It further offers the advantage of permitting the fusion as soon as the mineral is extracted, because it produces very little smoke and generally is of no damage to anyone. It is, however, subject to the law of 1851, by which, in case of damage, its use must be discontinued. With a certain kind of mineral it gives an increased production, much to the detriment, however, of the quality. For setting up one of these furnaces a heavy outlay is required, especially if a permanent one is needed. Even the cost of fusing is higher than with the Calcherone. It can be constructed either with three or four cells, but the one with four cells is always preferred.

OTHER FURNACES.

Other furnaces under experiment are as follows:

Di Stefano's furnace.—This furnace has six cells. It is similar to Gill's furnace, as far as the passing of the gas is concerned, but the alimentation of the air is not constant, and the condensation of the gaseous product is brought to the highest degree. No practical results are known as yet, but certainly it will be preferred to Gill's furnace, as its working is less dangerous.

Duletta & Constanzo's furnace.—This furnace has four cells. The alimentary air, in this system, does not pass through the burning coal, but is heated in passing through a canal around one of the cells in fusion. No results are known.

Various patented systems, as Perelli's, Macri's, etc., are now discarded.

Steam furnace.—This furnace is used in different important mines, and nearly 10 per cent. of the sulphur is so obtained. To build one of these furnaces a great expense is required, and skilled people are necessary to work it. It has, however, the advantage of immediately fusing the mineral extracted, but the yield is not larger than that obtained with the Calcherone, although the quality is superior by 2 degrees. The cost of fusing is also higher, but equal to that of Gill's furnace.

CHARLES HEATH,
Consul.

UNITED STATES CONSULATE,
Catania, September 2, 1891.

DANISH WEST INDIES.

REPORT BY CONSUL HORNE, OF ST. THOMAS.

EXPORTS AND IMPORTS.

I have necessarily delayed this report in order to secure full and accurate data of exports and imports from the collector of customs for the islands of St. Thomas and St. Croix.

It will be seen from the table of imports that nearly one-third of the importations, or $385,509, are from the United States. In fact, during the past year, and for the first time, we lead not only Great Britain, but all other countries in trade with this island. The imports exceed in value those of last year. I am led to believe from the numerous inquiries sent me from the United States by importers and manufacturers that greater efforts will be made in the future to increase American exportations to this island. It has been my pleasure in each instance to tender full information.

I regret to state that no official record is kept of exports. It is supposed by those best informed that the exports amount to about $125,000, of which sum, as seen by the table, $67,473.42 are to the United States.

NAVIGATION.

The tonnage statistics show an increase in the number of steam and sailing vessels touching at this port. During the year the United States and Brazil line has added two new and magnificent steamers to their fleet plying between New York and Brazil. In addition to that line, there are five other lines of steamers which regularly touch at this port.

REVENUE DEFICIT.

There was a deficit in revenue during the year of $55,000. This is due to the falling off of trade and to the large civil and military list. There has been an annual deficit during the past 12 years ranging in amounts from $20,000 to $55,000. The import duty is only 2 per cent., the least, I am informed, of any island in the West Indies.

PUBLIC HEALTH.

The health of the island at present is excellent. The prevailing diseases are intermittent and remittent fevers, intestinal catarrh, and acute diarrhea. The fevers, if not promptly checked, develop into the dreaded yellow fever. There were a few deaths last fall from the latter disease.

During the months of May and June of this year some fourteen cases of smallpox developed among the poorer classes of blacks. The patients were at once removed to the lazaretto, where, I am pleased to note, all recovered. Those cases, I regret to state, led to some unpleasant quarantine restrictions

on the part of neighboring islands, which continued long after the recovery of the patients.

The sanitary regulations are not surpassed by those of any island in the West Indies. Convict labor is daily employed in cleaning the streets and flushing the gutters. Cleanliness prevails. The death rate during the year has been 27 to 1,000 of population.

POPULATION.

The present population of the island, according to the census taken this spring, is 12,006. This shows a falling off during the past decade of 2,500. About 9,500 of the inhabitants reside in the port town called Charlotte Amalie. The balance are scattered over the island. Labor is cheap, but living expenses are exceedingly high. At least 11,000 of the inhabitants are of African descent, while the balance represent many nations. All speak English, which is the prevailing language of the island.

FUTURE PROSPECTS.

The beauty and safety of the harbor is well known by the shipping interests of the world. This port can easily hold the lead among the ports of sister islands as a convenient coaling station and general port of call. There are three large coaling docks, alongside of which the large steamers can get. The large iron floating dock and the machine shops of the Royal Mail Company offer inducements to ships to come here for repairs.

The emancipation of the slaves in 1848 was speedily followed by the abandonment of the estates, since which time none have been worked for the want of labor. Sufficient produce is not raised to support the people, but reliance is placed on neighboring islands for nearly all the vegetables and beef. Within a year or two some of the more progressive and enterprising business men have organized an agricultural society for the purpose of aiding and encouraging gardening and farming. It looks as though much good will result from their efforts.

I may add that the islanders look with hope to the acquisition of this island by the United States Government. The transfer would bring joy and gladness to nearly the entire people. It may be recalled that in 1867, when such transfer was under consideration and the question was submitted to the electors, out of a total vote of about 1,100 only 22 votes were in the negative. The change is desired, not by reason of any complaint or grievance against the mother country, but because the inhabitants look upon our country as progressive, wealthy, and powerful. Shall the islanders hope in vain? I may mention that there are only ten Americans in the island.

Table showing the imports into St. Thomas from various countries for the year ended March 31, 1891.

Articles.	United States.	Great Britain.	France.	Germany.	Denmark.	Spanish West Indies.	Other islands of the Danish West Indies.	Other countries.	Total.
Cloth goods:									
Linen	$13	$9,846	$1,725	$12,012	.....	.....	.....	.....	$23,596
Cotton	5,183	201,911	18,869	9,929	$178	.....	$138	$612	236,820
Woolen	12	8,762	4,784	8,835	143	.....	6	68	22,610
Silk	.....	2,834	14	10,153	652	.....	.....	185	13,838
Mixed	.....	817	.....	250	.....	.....	.....	.....	1,067
Ready-made clothing	620	5,971	15,988	3,908	703	$5	69	156	27,420
Flour:									
Wheat	76,041	.....	.....	.....	.....	.....	2,434	1,007	79,482
Rye	5,877	.....	.....	66	.....	.....	91	40	6,074
Corn meal	7,879	.....	.....	.....	.....	.....	708	156	8,743
Salted and smoked beef	3,280	20	.....	.....	9	.....	65	24	3,398
Tongues and sausages	445	20	193	454	1,724	.....	.....	.....	2,836
Salted and smoked pork	5,565	13	.....	8	12	.....	119	15	5,732
Hams	3,727	533	.....	87	665	.....	178	98	5,288
Butter	14,136	381	64	1,761	5,523	.....	1,042	4,232	27,139
Cheese	1,160	9	39	5,952	334	.....	855	677	8,426
Lard	7,546	31	.....	.....	.....	.....	216	.....	7,793
Refined sugar	11,173	11	.....	125	.....	.....	.....	.....	11,309
Fish:									
Salt	492	.....	.....	.....	1,179	.....	9	9,196	10,876
Pickled	232	14	.....	.....	3	.....	6	3,693	3,948
Beans and peas	6,508	12	48	.....	.....	411	239	469	7,687
Wheat and corn	2,798	.....	.....	.....	.....	122	99	16	3,035
Oats	327	.....	.....	649	566	.....	.....	521	2,063
Barley	84	437	.....	213	2	.....	.....	26	762
Yams and potatoes	.....	.....	645	629	.....	10	41	4,352	5,677
Bread	2,303	1,084	.....	109	12	.....	37	224	3,769
Tea	143	465	.....	1,097	82	.....	.....	67	1,854
Canned goods	1,836	3,415	3,433	961	480	5	20	93	10,243
Earthenware	192	295	1,218	897	511	.....	.....	.....	3,113
Boots and shoes	6,468	7,410	12,587	5,146	63	.....	56	.....	31,730
Saddlery	33	2,116	715	1,133	.....	.....	62	.....	4,059
Leather	1,455	15	1,708	943	114	.....	188	16	4,439
Glassware	1,370	487	840	1,118	93	.....	11	.....	3,919
Paper	663	911	1,255	1,276	344	.....	.....	169	4,618
Playing cards	24	803	485	1,040	70	.....	.....	.....	2,422
Lumber	11,035	24	.....	.....	13	.....	52	627	11,751
Shingles	31	.....	.....	.....	.....	.....	.....	1,112	1,143
Corks	.....	20	337	132	102	.....	.....	.....	591
Copper and lead	.....	677	.....	.....	.....	.....	.....	10	687
Iron	172	5,285	101	374	106	.....	374	40	6,452
Hardware	4,607	7,124	2,150	2,399	111	.....	.....	544	16,935
Nails	366	570	14	56	.....	.....	.....	.....	1,006
Cement	.....	107	.....	1,761	.....	.....	.....	.....	1,868
Marble	168	.....	162	.....	.....	.....	.....	.....	330
Rope	2,677	1,212	.....	51	203	.....	.....	42	4,185
Whisky	6,239	2,942	37	.....	.....	.....	.....	.....	9,218
Wine	.....	1,652	9,217	2,968	524	74	463	156	15,054
Brandy	1,160	706	4,088	160	.....	.....	12	.....	6,126
Gin	.....	.....	.....	9,279	.....	.....	.....	1,740	11,019
Spirits	614	.....	.....	7,793	641	.....	.....	.....	9,048
Sweet liqueurs	.....	279	2,766	4,395	135	70	.....	2,995	10,840
Cherry cordial	.....	.....	.....	922	785	.....	6	.....	1,713
Beer	228	3,435	1	3,732	9,179	.....	.....	370	16,964
Vinegar	234	.....	126	386	.....	.....	.....	.....	746

Table showing the imports into St. Thomas from various countries, etc.—Continued.

Articles.	United States.	Great Britain.	France.	Germany.	Denmark.	Spanish West Indies.	Other islands of the Danish West Indies.	Other countries.	Total.
Rum	.....	.....	$160	.....	.....	$99	$7,452	$4,034	$11,745
Coffee and cocoa	$48	.....	.....	.....	.....	901	.....	*3,680	4,629
Rice	17	$5	.....	$5,420	$8,955	.....	100	.....	14,497
Tobacco:									
Loose	6,457	.....	.....	.....	.....	50	155	411	7,073
Manufactured	4,808	.....	.....	230	194	.....	.....	11	5,243
Cigars	1,387	745	174	912	571	29,190	.....	1,892	34,871
Spices	337	82	7	863	2	.....	.....	39	1,330
Cotton	289	.....	.....	.....	.....	.....	.....	41	330
Raw sugar	.....	.....	.....	.....	.....	8,642	18,233	3,131	30,006
Molasses	.....	.....	.....	.....	.....	228	23	7	258
Fruit (fresh)	66	.....	.....	.....	.....	196	213	572	1,047
Coal	138,728	56,262	.....	.....	.....	.....	.....	.....	194,990
Paints	396	5,319	.....	189	20	.....	.....	39	5,963
Oil:									
Sweet	3,420	.....	4,275	.....	.....	.....	89	.....	7,684
Lamp	2,749	1,683	.....	551	.....	.....	.....	3,912	8,895
Soap	1,296	8,056	26	689	126	.....	.....	15	10,208
Candles	766	8	.....	4,046	21	.....	.....	173	5,014
Starch	4,675	.....	.....	.....	.....	51	44	345	5,115
Raisins and currants	104	355	4	199	.....	77	.....	69	808
Figs and dates	21	101	13	12	.....	5	.....	16	168
Prunes	.....	200	136	29	.....	.....	.....	5	370
Almonds	.....	54	.....	192	.....	.....	.....	.....	246
Nuts and olives	177	132	3	35	.....	.....	8	82	437
Sago and saloop	36	50	.....	194	.....	.....	5	789	1,074
Vermicelli	.....	.....	1,169	.....	.....	.....	.....	.....	1,169
Powder	.....	71	.....	1,238	.....	.....	.....	.....	1,309
Hats:									
Straw	488	3,793	994	158	.....	24	17	20,191	25,665
Felt	155	1,983	2,385	365	5	.....	.....	.....	4,893
Drugs	2,438	2,146	1,311	2,700	137	.....	.....	454	9,186
Jewelry	22	1,545	3,586	302	247	.....	.....	60	5,762
Perfumery	1,204	470	1,375	537	.....	1,818	2	1,063	6,469
Fancy goods	1,443	13,234	17,795	4,673	390	.....	36	79	37,650
Poultry	78	.....	.....	.....	.....	.....	10	182	270
Horses	.....	.....	.....	.....	.....	.....	289	619	908
Cattle	.....	.....	.....	.....	.....	6,342	135	17,870	24,347
Sheep and goats	132	.....	.....	.....	.....	66	150	1,252	1,600
Hogs	.....	.....	.....	.....	.....	.....	12	1,486	1,498
Oysters	209	.....	.....	.....	.....	.....	.....	.....	209
Furniture	3,859	459	1,821	2,087	140	.....	167	88	8,621
Ships' material	217	840	.....	.....	59	.....	3	2,658	3,777
Salt	.....	58	.....	.....	.....	.....	.....	288	346
Charcoal	.....	.....	.....	.....	.....	.....	620	4,939	5,559
Ice	4,924	.....	.....	.....	.....	.....	.....	.....	4,924
Onions	147	.....	810	.....	.....	721	32	254	1,964
Bricks	.....	330	.....	.....	.....	.....	.....	.....	330
Tapestry	.....	47	287	42	.....	.....	.....	.....	376
Hard wood	.....	.....	.....	.....	.....	.....	.....	177	177
Hides	.....	.....	.....	.....	.....	.....	150	.....	150
Carriage material	57	.....	.....	.....	.....	.....	130	.....	187
Tar and pitch	61	.....	.....	.....	71	.....	.....	.....	132
Resin and turpentine	94	.....	.....	.....	.....	.....	.....	.....	94
Floor mats	34	20	.....	2	.....	.....	1	.....	57
Miscellaneous	7,054	5,528	3,212	3,094	1,201	8,860	530	1,044	30,523
Total	383,509	376,232	133,191	122,636	36,762	57,967	35,602	105,715	1,251,614

Table showing the exports from the consular district of St. Thomas to the United States during the year ended March 31, 1891.

Articles.	Quarter ended—				Total.
	June 30, 1890.	September 30, 1890.	December 31, 1890.	March 31, 1891.	
Bay oil	$68.00	.....	$315.25	.....	$383.25
Bay rum	6,216.98	$3,887.03	3,787.94	$1,726.86	15,618.81
Bay spirit	.....	.....	90.74	195.56	286.30
Brandy	3,144.78	.....	3,205.45	1,089.61	7,439.84
Hides and skins	1,663.72	676.08	831.15	899.25	4,074.14
Miscellaneous	327.97	118.55	.....	.....	446.52
Rum	775.57	90.78	359.07	538.15	1,763.57
Salt	.....	.....	1,165.00	2,211.25	3,376.25
Shells, turtle	381.60	2,655.23	.....	.....	3,036.83
Sugar	.....	.....	4,052.50	.....	4,052.50
Wearing apparel and effects	.....	.....	818.50	.....	818.50
Whisky	3,738.13	1,582.55	8,347.61	12,512.62	26,180.91
Total	16,316.75	9,010.16	22,973.21	19,173.30	67,473.42

Table showing the navigation at St. Thomas for the year ended March 31, 1891.

From or to—	Entered.				Cleared.			
	Steamers.		Sailing vessels.		Steamers.		Sailing vessels.	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
American.								
United States	19	41,610	18	10,372	19	38,815	14	6,840
British West Indies	8	15,884	14	5,254	9	21,630	10	5,100
French West Indies	11	22,931	8	2,219	10	19,980	.....	.....
Spanish West Indies	.....	.....	.....	.....	.....	.....	24	10,063
Danish West Indies	.....	.....	.....	.....	.....	.....	2	596
Santo Domingo	.....	.....	.....	.....	.....	.....	3	931
Brazil	.....	.....	4	1,771	.....	.....	.....	.....
Venezuela	.....	.....	1	321	.....	.....	.....	.....
Spain	.....	.....	1	347	.....	.....	.....	.....
Cardiff	.....	.....	1	577	.....	.....	.....	.....
Colombia	.....	.....	.....	.....	.....	.....	2	686
Coast of Africa	.....	.....	3	1,018	.....	.....	.....	.....
Total	38	80,425	50	21,879	38	80,425	55	24,216
British.								
United States	17	20,016	4	1,928	10	10,060	9	3,098
Great Britain	23	31,117	1	149	4	4,764	.....	.....
British West Indies	39	43,100	22	4,084	40	47,547	4	1,003
French West Indies	.....	.....	5	1,248	2	1,672	.....	.....
Spanish West Indies	3	1,876	.....	.....	19	18,898	27	5,246
Danish West Indies	3	1,529	1	338	2	246	2	374
Dutch West Indies	2	1,774	.....	.....	.....	.....	1	172
Halifax	.....	.....	4	571	.....	.....	5	762
Haiti	3	4,450	.....	.....	8	9,971	.....	.....
Colon	1	1,605	.....	.....	3	7,418	.....	.....
Brazil	.....	.....	6	1,909	.....	.....	1	640
Teneriffe	2	1,943	.....	.....	.....	.....	.....	.....
Venezuela	.....	.....	.....	.....	.....	.....	1	847
France	.....	.....	1	263	.....	.....	.....	.....

Table showing the imports into St. Thomas from various countries, etc.—Continued.

Articles.	United States.	Great Britain.	France.	Germany.	Denmark.	Spanish West Indies.	Other islands of the Danish West Indies.	Other countries.	Total.
Rum	.....	.....	$160	.....	.....	$99	$7,452	$4,034	$11,745
Coffee and cocoa	$48	.....	.....	.....	.....	901	.....	*3,680	4,629
Rice	17	$5	.....	$5,420	$8,955	.....	100	.....	14,497
Tobacco:									
Loose	6,457	.....	.....	.....	.....	50	155	411	7,073
Manufactured	4,808	.....	.....	230	194	.....	.....	11	5,243
Cigars	1,387	745	174	912	571	29,190	.....	1,892	34,871
Spices	337	82	7	863	2	.....	.....	39	1,330
Cotton	289	.....	.....	.....	.....	.....	.....	41	330
Raw sugar	.....	.....	.....	.....	.....	8,642	18,233	3,131	30,006
Molasses	.....	.....	.....	.....	.....	228	23	7	258
Fruit (fresh)	66	.....	.....	.....	.....	196	213	572	1,047
Coal	138,728	56,262	.....	.....	.....	.....	.....	.....	194,990
Paints	396	5,319	.....	189	20	.....	.....	39	5,963
Oil:									
Sweet	3,420	.....	4,175	.....	.....	.....	89	.....	7,684
Lamp	2,749	1,683	.....	551	.....	.....	.....	3,912	8,895
Soap	1,296	8,056	26	689	126	.....	.....	15	10,208
Candles	766	8	.....	4,046	21	.....	.....	173	5,014
Starch	4,675	.....	.....	.....	.....	51	44	345	5,115
Raisins and currants	104	355	4	199	.....	77	.....	69	808
Figs and dates	21	101	13	12	.....	5	.....	16	168
Prunes	.....	200	136	29	.....	.....	.....	5	370
Almonds	.....	54	.....	192	.....	.....	.....	.....	246
Nuts and olives	177	132	3	35	.....	.....	8	82	437
Sago and saloop	36	50	.....	194	.....	.....	5	789	1,074
Vermicelli	.....	.....	1,169	.....	.....	.....	.....	.....	1,169
Powder	.....	71	.....	1,238	.....	.....	.....	.....	1,309
Hats:									
Straw	488	3,793	994	158	.....	24	17	20,191	25,665
Felt	155	1,983	2,385	365	5	.....	.....	.....	4,893
Drugs	2,438	2,146	1,311	2,700	137	.....	.....	454	9,186
Jewelry	22	1,545	3,586	302	247	.....	.....	60	5,762
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Fancy goods	1,443	13,234	17,795	4,673	390	.....	36	79	37,650
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Furniture	3,859	459	1,821	2,087	140	.....	167	88	8,621
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Brandy	3,144.78	.....	3,205.45	1,089.61	7,439.84
Hides and skins	1,663.72	676.02	831.15	899.25	4,074.14
Miscellaneous	327.97	118.55	.....	.....	446.52
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Sugar	.....	.....	4,052.50	.....	4,052.50
Wearing apparel and effects	.....	.....	818.50	.....	818.50
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Spanish West Indies	.....	.....	.....	.....	.....	.....	24	10,063
Danish West Indies	.....	.....	.....	.....	.....	.....	2	596
Santo Domingo	.....	.....	.....	.....	.....	.....	3	931
Brazil	.....	.....	4	1,771	.....	.....	.....	.....
Venezuela	.....	.....	1	321	.....	.....	.....	.....
Spain	.....	.....	1	347	.....	.....	.....	.....
Cardiff	.....	.....	1	577	.....	.....	.....	.....
Colombia	.....	.....	.....	.....	.....	.....	2	686
Coast of Africa	.....	.....	3	1,018	.....	.....	.....	.....
Total	38	80,425	50	21,879	38	80,425	55	24,216
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British West Indies	39	43,100	22	4,084	40	47,547	4	1,003
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Danish West Indies	3	1,529	1	338	2	246	2	374
Dutch West Indies	2	1,774	.....	.....	.....	.....	1	172
Halifax	.....	.....	4	571	.....	.....	5	762
Haiti	3	4,450	.....	.....	8	9,971	.....	.....
Colon	1	1,605	.....	.....	3	7,418	.....	.....
Brazil	.....	.....	6	1,909	.....	.....	1	640
Teneriffe	2	1,943	.....	.....	.....	.....	.....	.....
Venezuela	.....	.....	.....	.....	.....	.....	1	847
France	.....	.....	1	263	.....	.....	.....	.....

Sundry revenues.

Sundry revenues		$4,500.00
Total revenue		124,170.00

The following statement shows the expenses of the municipality of St. Thomas and St. John for the year ended March 31, 1891:

Superior local administration in common to all the islands.

The Government:		
Governor—		
Salary	$3,750.00	
Table money	1,250.00	
Traveling expenses	250.00	
Government secretary—		
Salary	2,800.00	
Additional allowance for serving at St. Thomas	200.00	
Government secretary's office—		
Two clerks ($1,200 each and eventually seniority allowance)	2,400.00	
Extra clerks, stationery, and a messenger	1,600.00	
		$12,250.00
Upper court:		
Upper judge, salary	1,750.00	
Salary and additional salary to a copyist, for expenses of the office, and for a messenger, according to specified accounts, to the amount of $950, for St. Thomas and St. John	375.00	
		2,125.00

Colonial council of St. Thomas and St. John.

For an assistant to the council's officers, printing expenses, stationery, and wages to a messenger, etc	1,400.00	

Other branches of the administration and public institutions.

Officers under the administration:		
Bookkeeper—		
Salary	2,000.00	
Clerk in the bookkeeper's office, salary	1,000.00	
Extra writing stationery and a messenger	565.00	
Treasurer—		
Compensation for short cash and false coins	200.00	
Office expenses, according to proposals to the Government and specified accounts, provided an assistant be engaged	900.00	
Stationery and a messenger	160.00	
Building inspector, etc.—		
Salary	1,200.00	
Stationery and traveling expenses, etc., according to previous proposals to the Government and specified accounts	150.00	
		6,175.00

Judiciary and police department:		
Sheriff, recorder, etc., in St. Thomas—		
Salary	$3,200.00	
Office expenses (including a salary of $1,200 per annum for a *candidatus juris* as chief clerk), according to previous proposals to the Government and specified accounts, to an amount of $3,200	2,600.00	
Citerers	691.20	
Police master in St. Thomas—		
Salary	2,600.00	
Additional salary for the present police master	200.00	
Traveling expenses	300.00	
Office expenses, according to previous proposals to the Government and specified accounts	2,600.00	
Police assistant, policemen, and a jailer, pay, uniforms, and for horse-keeping, etc	15,890.00	
Divers minor expenses at the police office	298.80	
Judge in St. John—		
Salary ($2,000)	1,500.00	
Horse-keeping and office expenses	200.00	
Policemen's wages	700.00	
Uniforms	50.00	
Salaries to lawyers and traveling expenses in public suits and for translations in such suits	150.00	
		$30,980.00
Clerical department:		
Lutheran clergyman in St. Thomas and St. John, salary	900.00	
Sexton in St. Thomas, salary	250.00	
Sexton in St. John (salary $400)	200.00	
		1,350.00
Customs department:		
Superintendent of customs, salary	3,200.00	
Assistant superintendent (salary $1,500)	500.00	
Office expenses, stationery, etc., according to previous proposals to Government and specified accounts	2,518.00	
		6,218.00
Harbor and pilot department:		
Harbor master (salary $2,000)	1,200.00	
Additional salary to the present occupant	276.00	
Boatmen, keeping boats, and other expenses of the harbor department, according to previous proposals to the Government and specified accounts	2,935.00	
Two assistants and additional salaries	976.00	
Night patrol	600.00	
Arrangements in the harbor for the security of the shipping	840.00	
Keeping and preserving the dredging apparatus	314.00	
		7,141.00
Postal and telegraph department:		
Postmaster in St. Thomas, salary	2,200.00	
Clerk in the post-office, salary	1,200.00	
Wages for office assistance, letter-carriers, and an office porter in St. Thomas, according to proposals to Government and specified accounts; also stationery, inventory, and uncertain expenses	2,950.00	
Salary of postmaster in St. John	30.00	

Postal and telegraph department—Continued.		
Payment for sea transport and transit, etc.	$3,200.00	
Attendance to, and preservation of, the signal telegraph in St. Thomas	120.00	
Hire of a mail boat between St. Thomas and St. John	200.00	
Hire of a sailing schooner to serve as a mail and transport vessel between the Danish West India Islands	800.00	
		$10,700.00
Military expenses:		
Special fixed expenses	14,135.00	
Expenses for the entire forces	917.25	
Special expenses not fixed by previous regulations	12,227.00	
		27,279.25
Fire department:		
Major of the fire company, salary	320.00	
Adjutant to the fire company, salary	160.00	
Uniforms for the unsalaried officers	120.00	
Pay for permanent firemen and for two drummers	1,488.00	
Attendance to the engines	384.00	
Other expenses	756.00	
		3,228.00
Streets and public roads:		
Repairs of streets and public places, etc.	3,800.00	
Salary and horse-keeping for the street inspector	792.00	
Repairs of public country roads in St. Thomas	900.00	
Repairs of public country roads in St. John	300.00	
Cleaning the streets of St. Thomas	3,580.00	
Lighting the streets of St. Thomas	5,676.00	
		15,048.00
Department of public instruction:		
School director (salary $2,800)	1,050.00	
Salary and additional salary to teachers in the communal schools in the town of Charlotte Amalie, besides eventual further seniority allowance	4,000.00	
Private teachers in the communal schools in the town of Charlotte Amalie, besides eventual further seniority allowance	878.00	
Inventory and materials for needlework, prizes at examination, a school board messenger, cleaning the schools, printing expenses, and office assistance in drawing up the yearly lists of children compelled to attend school	920.00	
Pay to teachers in the country schools of St. Thomas	900.00	
Stationery, etc., in the country schools	40.00	
Country schools in St. John	534.00	
An additional amount for the same	216.00	
In aid of private elementary schools, etc.	1,300.00	
Subvention to boys' school of a higher class	600.00	
Prizes to the teachers in the rural schools	120.00	
		10,558.00
Sanitary department:		
Land physician of St. Thomas and St. John for medical attendance at the communal hospital and public examinations	600.00	

Sanitary department—Continued.		
Discharge of the functions of the communal and military physicians	$1,600.00	
Defraying expenses of the communal physician's visits to St. John	100.00	
Veterinary surgeon (salary $1,400)	400.00	
Two midwives, salaries	640.00	
Communal hospital in St. Thomas	10,600.00	
Management of the quarantine establishment and lazaretto in St. Thomas	500.00	
Salary and traveling expenses of a midwife in St. John	300.00	
		$14,740.00
Poor department:		
In aid of poor in St. Thomas	2,600.00	
Medicine for paupers	650.00	
Burying paupers	280.00	
Support of paupers in St. John	400.00	
Sending away paupers not domiciled in the community	120.00	
Subsidy to the Roman Catholic poor hospital, St. Thomas	600.00	
		4,650.00
Prison department:		
Wages for overseers of the convict gang	600.00	
Maintenance of prisoners and convicts	3,000.00	
Other expenses	400.00	
		4,000.00
Building and other uncertain expenses.		
Different building repairs	2,375.00	
New building works	660.00	
Rent of public offices	1,799.00	
Attendance to dry earth closets for public buildings	648.00	
Public grounds and gardens	200.00	
Care of the public cemeteries, etc	400.00	
Care of the military cemetery	50.00	
Expenses connected with gunpowder	700.00	
Administration of the board of upper guardians	200.00	
Allowance for former midwife	100.00	
Allowance for former sexton in St. John	72.00	
Contribution to the military music fund and the military band	570.00	
Rent of the grounds required for the quarantine watch station on the land of the estate "Bellevue"	12.00	
Other uncertain expenses	2,400.00	
		10,186.00
Pensions.		
Pensions, according to pension law of December 4, 1863	11,009.84	
To retired noncommissioned officers, musicians, and privates of the Danish West India forces	200.00	
		11,209.84
Total expenses		179,238.09

SAMUEL B. HORNE,
Consul.

UNITED STATES CONSULATE,
St. Thomas, W. I., August 18, 1891.

FOREIGN TRADE OF TURKEY.

REPORT BY ACTING CONSUL-GENERAL DEMETRIADES, OF CONSTANTINOPLE.

I have the honor to transmit herewith the last statistical return of trade of the Ottoman Empire, published by the Turkish general custom-house administration at Constantinople, for the Turkish financial year ended February 28, 1890. A comparison of this table with that for the year 1888–'89 shows a continued increase of exports and a comparative decrease of imports, which fact can be apparently interpreted in favor of Turkey.

There have been many failures lately in Constantinople, especially in the money market, and business is suffering greatly therefrom, owing to the lack of confidence, as all transactions are made here on an extended credit, varying from 1 to 3 and even 6 months. The inclosed table does not cover the amount of arms and ammunition imported (mostly from Germany) for the use of the Turkish Imperial Government, nor does it include the articles (personal and household effects, books, etc.) destined for the diplomatic and consular officers and for all religious institutions, as these articles come in free under the treaties and capitulations between Turkey and the foreign powers.

The Turkish Government has granted a tobacco monopoly to a foreign company called Régie Cointeressée des Tabacs de l'Empire Ottoman, from which it receives an annual income of $3,300,000, and some of the custom-house duties and internal revenue taxes, viz, the duty on salt, fish, liquors, and spirits and the stamp revenue tax, have been conceded to the Turkish public debt administration for the payment of the interest on the floating debt, which is under the management of the several European bondholders. In this connection I beg leave to state that a tobacco society has just been formed, with foreign capital, and is established in Constantinople under the name of Société de Tombac, with a capital of $1,000,000. This society is the agent of the Persian Tobacco Monopoly Company of Persia, and will have the exclusive monopoly of all Persian tobacco in Turkey, with a branch office at Jiddah, Arabia. The exports of tobacco from Turkey during the year 1890 amounted to 28,012,742 pounds and the imports to $29,710.

The import and export duties in Turkey continue the same, viz, a uniform duty of 8 per cent. on all imports and 1 per cent. on all exports. The new tariffs, which are almost completed, have not yet been put into force. Goods in transit to Persia do not pay any duties, but are allowed to go through Trebizonde and Erzroom in bond to Persia overland, and the certificate of the Persian custom-house authorities is necessary to exempt them from any duty in Turkey. All agricultural machinery and implements are allowed to be imported free of duty in virtue of an imperial order, which has been extended.

Table showing the imports and exports of Turkey during the year ended February 28, 1890.

From and to—	Imports.	Exports.
United States	$265,237.54	$692,379.24
Austria	17,002,351.00	5,959,012.66
Belgium	1,829,274.74	73,558.18
Bulgaria	4,946,467.19	1,677,235.73
Denmark	1,301.03	8,394.27
Egypt	83,457.13	4,346,180.38
England	40,238,613.49	25,669,248.04
France	11,192,220.24	18,785,844.13
Germany	116,553.58	235,761.81
Greece	1,295,153.81	2,337,064.92
Holland	411,363.43	1,101,349.26
Italy	1,867,274.33	3,034,880.46
Montenegro	36,492.32	24,319.54
Persia	2,332,033.61	49,783.53
Roumania	1,735,846.37	1,083,250.52
Russia	7,626,159.68	1,426,206.05
Samos	3,139.92	26,309.97
Servia	283,275.12	155,437.43
Spain	.....	59,360.88
Sweden	201,697.93	.....
Tunis	114,789.13	13,113.93
Total	91,582,701.59	66,758,690.93

D. N. DEMETRIADES,
Acting Consul-General.

UNITED STATES CONSULATE-GENERAL,
Constantinople, September 17, 1891.

PROJECTED INDUSTRIES IN SYRIA.

REPORT BY CONSUL BISSINGER, OF BEIRUT.

The following industrial enterprises in Syria are proposed, and are now being carefully considered and examined by the competent authorities in Constantinople:

(1) A railway from the port of Alexandretta to Biredjik, Aleppo, Hamah, Homs, and Damascus, with a branch from Homs to Tripoli, in Syria.

(2) A horse or steam tramway along the coast from Tripoli, in Syria, to Beirut and Saida.

(3) A diligence (omnibus) service between Baalbec and Shtora, in Cœl Syria, and Damascus.

(4) The introduction of the electric light into the city of Damascus.

(5) The establishment of irrigation works on the River Litany, which empties into the Mediterranean near Saida, for irrigating lands between Saida, Soor, etc.

As soon as any of these projects shall have further advanced details will at once be transmitted to the Department.

ERHARD BISSINGER,
Consul.

UNITED STATES CONSULATE,
Beirut, September 3, 1891.

PRICES OF FOOD PRODUCTS IN GERMANY.

TRANSMITTED BY CONSUL-GENERAL EDWARDS, OF BERLIN.

[Translated from the Berlin Vossische Zeitung of September 15, 1891.]

We give below, on the strength of the statements of the official Statistical Correspondent, a table showing August rye prices for the past 5 years in nine important market places. The prices given are the average prices, reckoned from different qualities. The places, which we have chosen at random from the twenty-three given in the Statistical Correspondent, we have arranged in geographical order from east to west. In the last line are given the average prices of the twenty-three market places calculated by the royal statistical bureau. The last column shows how the price of rye has risen in the different market places during the past 4 years.

Table showing the prices of rye per 1,000 kilogrammes in August of each year from 1887 to 1891, with average percentage of increase

Cities.	1887.	1888.	1889.	1890.	1891.	Average increase.
	Marks.	*Marks.*	*Marks.*	*Marks.*	*Marks.*	*Per cent.*
Konigsberg	96	122	142	152	212	121
Dantzic	*110	126	143	150	235	114
Breslau	110	125	155	150	220	100
Posen	106	123	148	146	216	104
Berlin	117	132	158	160	233	99
Magdeburg	121	138	159	160	232	92
Cassel	126	141	159	167	233	88
Hanau	130	*153	160	163	242	86
Aix la Chapelle	135	158	169	168	223	65
Average	120	135	155	157	229	91

* Estimated.

This table is valuable in various ways. It shows that prices, in spite of small variations in individual places from 1889 to 1890, rose regularly and that this rise, on an average, had been, between 1887 and 1890, 37 marks, or about 30 per cent. The rise in the past year was very great. On the average, in the past 4 years, the price of rye has risen 91 per cent. This increase has, however, varied in the different towns. In Konigsberg it amounted to 121 per cent.; in Dantzic, 114 per cent.; in Berlin, 99 per cent.; in Hanau, 86 per cent.; and in Aix la Chapelle, 65 per cent. From this it appears that the price has increased from west to east, and that not only in the past year, for in the period from 1887 to 1890 the price had risen in Konigsberg 56 marks; in Berlin, 43 marks; in Hanau, 33 marks; and in Aix la Chapelle, 35 marks. Prices in the east are constantly approaching those in the west. In 1887 rye in Konigsberg was 39 marks, or 29 per cent., cheaper than in Aix la Chapelle; in 1891 the difference was only 11 marks, or 5 per cent.; in 1888 the price in Dantzic was still 32 marks lower than in Aix la Chapelle, but now it is 12 marks higher. We will not forget that August prices this year were partly influenced by the panic caused by the Russian rye export prohibition; but in September no considerable fall has taken place. The price of rye here in Berlin was yesterday, according to the report of the statistical bureau, 225 marks, which is only 8 marks less than in August, while in Breslau it was 223 marks, which was 3 marks more than in August.

The latest "necessity-of-life" tables of the Statistical Correspondent for August give an exceedingly gloomy view of the existing state of affairs. In addition to the enormous rise in

the prices of rye and rye flour, prices of meat also continue to rise. Moreover, nearly all other necessities of life are dearer. Potato prices alone show a decline, owing to the influence of a new crop; but even potatoes are still very dear, if prices are compared with those of former years.

Wheat, taking the average of all the market places, was 7 marks dearer, and reached the price of 239 marks. Prices rose in Cassel 14 marks; in Dantzic, Gleiwitz, Magdeburg, and Halle, 9 marks; and fell only in Konigsberg, about 5 marks. With the exception of Kiel, where the quotation was given for only good quality (266 marks), prices were highest in Hanau, where the average was 252 marks; then followed Görlitz and Posen, with 249 marks; and Cassel, with 241 marks. Wheat was cheapest in Konigsberg (224 marks) and in Cöslin and Stettin (233 marks). In Reuss the price, averaged from good and middling qualities, was 228 marks. The Berlin average was 235 marks.

Rye, taking the average of all the market places, rose from 212 marks to 229 marks. We have in the above table August prices of past years, and duly remark here that the rise in prices, in comparison with similar qualities in the preceding month, was most noticeable in Coblentz (40 marks), Hanau (30 marks), Dantzic and Berlin (24 marks), Gleiwitz (22 marks), and Aix la Chapelle (20 marks). The price was highest in Hanau (242 marks); then followed Dantzic, where it was formerly so cheap, with 235 marks; and Görlitz, Berlin, and Cassel, with 233 marks. The cheapest rye prices were in Konigsberg (212 marks), Posen (216 marks), and Bromberg (218 marks). In Dantzic and Hanover the prices of rye were just as high as those of wheat.

Barley, taking the average of all the market places, rose from 170 marks to 171 marks. The greatest increase was 7 marks in Magdeburg, and 6 marks in Breslau, Halle, and Cassel. In Konigsberg the price of barley fell 6 marks. The price was lowest in Gleiwitz (146 marks) and highest in Aix la Chapelle (212 marks); then followed Coblentz (183 marks) and Berlin (181 marks).

On an average, oats fell 1 mark, there being little change in the different sorts. The price was cheapest in Treves (159 marks), then in Konigsberg and Görlitz (161 marks); it was dearest in Berlin and Aix la Chapelle (184 marks).

The prices of table potatoes in general, as already remarked, fell very much, most of all in Paderborn, from 128.30 marks to 69.80 marks; in Osnabrück, from 97.70 marks to 53.20 marks; in Cassel, from 127.50 marks to 86.30 marks; and in Berlin, from 105.90 marks to 66 marks. This decline, however, was chiefly caused by the fact that old potatoes, which had become very scarce, were replaced by new potatoes. The average price of all the market places fell from 89.30 marks to 68.20 marks. The price was lowest in Osnabrück (53.20 marks), Hanau (54.30 marks), and Treves (54.40 marks); and highest in Cassel (86.30 marks) and Aix la Chapelle (95.50 marks).

Straw, although influenced by the weather and local fluctuations, did not, on the whole, retain its former average price. The greatest rise was in Kiel (7 marks); the greatest fall was in Bromberg (7.40 marks). Prices were lowest in Görlitz (38.80 marks) and Cöslin (40 marks), and highest in Aix la Chapelle (65 marks) and Coblentz (67.50 marks).

The price of hay in most places rose considerably, but in some places it became somewhat cheaper. The greatest rise was in Frankfort-on-the-Oder (18.30 marks), Reuss (12 marks), and Coblentz (10 marks). The average prices of all market places rose from 53.50 marks to 56.40 marks.

The prices of meat in most places lying on this side of the Elbe rose. In addition to these, meat prices rose in Treves, on account of the church festival held there. The rise in the prices of all and certain sorts of meats was greatest in Posen, Frankfort-on-the-Oder, Görlitz, Stettin, and Magdeburg. Of the different sorts of meat the fewest changes were in beef (eight increases and two decreases), which maintained the average price of the preceding month. Mutton, taking the average of all the places, rose 2 pfennigs per kilogramme (eleven increases and two decreases); pork, 3 pfennigs (thirteen increases); and veal, 7 pfennigs (fourteen in-

creases and one decrease). That the price of veal rose in Hanau from 1.10 marks to 1.63 marks—almost 50 per cent.—is almost incredible. Veal is now, taking the average of all the places, 2 pfennigs dearer than beef.

Bacon, butter, and eggs also became dearer in many placas. The price of flour pretty closely followed the fluctuations in the price of grain. Wheat flour, taking the average of all the places, rose from 40 pfennigs to 41 pfennigs per kilogramme, while the price of rye flour rose from 35 pfennigs to 38 pfennigs. Rye flour showed a rise of 6 pfennigs, and, in Konigsberg, even of 8 pfennigs. In Gleiwitz, Breslau, Frankfort-on-the-Oder, Stettin, Kiel, and Hanover rye flour was just as dear as wheat flour, while in several other places considerable difference in price still existed, the difference in Treves amounting to 18 pfennigs. There the quotation for wheat flour was 50 pfennigs and for rye flour 32 pfennigs.

The prices of other necessaries of life do not require special mention.

A comparison with the August prices of last year shows that prices rose during the year as follows:

	Per cent.
Rye	45.9
Potatoes (table)	32.3
Rye flour	31
Wheat	22.6
Wheat flour	20.6
Barley	11
Straw	10.9
Hay	10.8
Oats	8.3
Peas	4.3
Beans	3.5
Veal	2.4
Coffee	0.3

Mutton, eggs, and rice brought the same prices. Prices decreased as follows:

	Per cent.
Butter	2.2
Beef	3
Lentils	3.9
Lard	6.3
Bacon	7.6
Pork	8.2

TRADE OF TRIESTE AND FIUME.

REPORT BY CONSUL HARTIGAN, OF TRIESTE.

TRIESTE.

The total imports and exports of Trieste for the year 1890 were as follows:

Imports:	
By sea	$76,530,540
By land	66,801,728
Total	143,332,268
Exports:	
By sea	64,631,130
By land	58,770,406
Total	123,401,536

As compared with the previous year, a decrease is shown of $3,364,739 in imports and $5,193,853 in exports. The total value of declared exports from this consular district to the United States for the same period amounted to $1,795,918, an increase of $586,561. The imports from the United States at Trieste amounted to $1,556,029, an increase of $898,808 as compared with the year 1889.

Thirty-six vessels arrived at Trieste from the United States during the year 1890, viz, 30 sailing vessels and 6 steamers, the former representing 15,298 tons and the latter 14,744 tons; 19 steamers, with 43,849 tons, and 1 sailing vessel of 651 tons cleared for the United States. Only 59 emigrants embarked during the year at this port for the United States.

FIUME.

The imports by sea at Fiume amounted to 2,678,783 quintals, valued at $10,921,847; exports, 5,468,360 quintals, valued at $22,882,487. Compared with the year 1889, there is an increase in the imports of $938,646 and a decrease in the exports of $861,231. The imports by land at Fiume amounted to 4,808,379 quintals and exports to 1,359,796 quintals. This is a decrease, compared with the previous year, of 329,676 quintals in imports and an increase of 50,657 quintals in exports. These figures include only the transit of foreign goods. The value of the imports from the United States at Fiume in 1890 was $481,844 and the exports (including merchandise coming from outside this consular district) $1,321,584, showing an increase over 1889 of $228,279 in imports and $346,636 in exports. The imports consisted exclusively of petroleum and tobacco.

NO LONGER FREE PORTS.

Trieste and Fiume ceased to be free ports on the 1st of this month. The immediate effect of the change has been to increase the cost of living the same as in other portions of the Empire, salt, tobacco, and spirits having been the only articles formerly taxed. Trieste had existed as a free port since 1719, when Charles VI granted the harbor franchise to the new town. Such favoritism having led to frequent and bloody quarrels between the inhabitants of both sides of the grand canal, in 1749 Empress Maria Theresa extended the privileges to what was known as the old town. Fiume was a free port more than 200 years. According to my information, Copenhagen is now the only so-called *porto franco* in continental Europe.

JAMES F. HARTIGAN,
Consul.

UNITED STATES CONSULATE,
Trieste, July 10, 1891.
No. 134——5.

ITALIAN EMIGRATION TO THE UNITED STATES.

REPORT BY COMMERCIAL AGENT GRIFFIN, OF LIMOGES.

In making a study recently of the condition of the laboring classes of Europe, some facts relating to emigration came under my observation to which it seems proper to call the attention of the Department.

In Italy, where so many of the criminal classes escape prosecution and evade the Italian laws by emigrating to the United States and there becoming naturalized citizens, as well as in Austria-Hungary and Poland, there exist certain laws which render it comparatively easy to stop at the port of entry any persons who have committed any crime or have been public burdens at any time during their lives in their native land. Especially is this the case in Italy, where a complete and perfect record is kept of every Italian born in the country, no matter how far he may wander from his birthplace. If he is arrested, prosecuted, convicted, or a charge of vagrancy is preferred against him, the facts are sent to his place of origin and inscribed on the records. Therefore, all that is necessary in order to know the civil status of any person from Austria-Hungary, Italy, or Poland is to demand of him before landing a certificate showing his civil standing at home. These certificates are signed by the chief of police or the mayor of his birthplace. Some system should be devised, like the perforation of bank checks, so that these certificates can not be duplicated or used by others than the rightful owners, for it is well known that one passport has served during the entire period that it was in force for several heads of families, who assumed the name given on the document until they were landed, when it was mailed to Italy to be used again by some friend emigrating.

Few, if any, of the criminals leave Italy by sea, as a strict watch is kept on all who go out of the country by boat; these persons generally take the railroad to some northern European port, where they embark for the United States. Preference is given to the Netherlands steamship line, whose rates are lower than the others and whose vessels make a landing at Boulogne to accommodate Italian emigrants.

As a rule, all Italians coming to France, either to labor or to be naturalized, have to show their *état-civil* (civil status). In this way the French protect themselves from many Italian criminals. Within the last 2 weeks several Italians were found here who could not give satisfactory accounts of themselves or their lives in Italy, and they were sent back to the frontier and information given to the police of their native district; in every case there were criminal charges against each. Emigrants having through tickets to the United States are never questioned by the French authorities for their *état-civil*, and the only information that the steamship company desires is to know if they have money enough to pass the commissioner of emigration; and this money is often loaned just for that occasion.

At Naples a vessel was about to leave port for the United States with 300 emigrants on board. A careful investigation of these showed a very large percentage of females—nearly two-thirds of the steerage passengers. An elderly woman was seen with six girls ranging from 14 to 16 years of age, all of whom she claimed as her own daughters, although there was scarcely 1 year's difference in their ages and not the slightest family resemblance between them. Several of these cases were on board. All the girls affirmed that the woman was their mother, with whom they were going to the United States, convincing one that the girls had been taught what to reply to all inquiries. It was intimated, and believed by reliable parties, that these girls were being taken to the United States for immoral purposes, and, although the difficulty in proving this statement would be great, belief in the fact can not be shaken. One thing is sure, the woman was not the mother of the six girls, who never had money enough of their own to pay their passage from Italy to the United States.

From a brief, and necessarily incomplete, survey of Italian emigration, sufficient was learned to show that the best interests of the United States would be protected by a most careful scrutiny of Italian emigrants.

WALTER T. GRIFFIN,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Limoges, September 2, 1891.

SUGAR INDUSTRY OF NICARAGUA.

REPORT BY CONSUL NEWELL, OF MANAGUA.

The actual condition of the sugar industry in Nicaragua is very poor, and it has been so for the past 5 years. There is now, however, an indication of improvement.

A company with a capital of $300,000 has been started lately for the working of a large sugar plantation in Chinendega, at a place known as San Antonio. It is the intention to have a first-class plant, with all modern improvements as regards machinery and cultivation, and raise at least 3,000 tons of sugar yearly. Another company has taken in charge the Polvon plantation, in the same department, and has already imported new machinery capable of producing 500 tons of sugar per year.

The section where the most of the sugar is produced is Jinotepe. I calculate the production in 1890 to have been 25,000 quintals. The most imperfect and primitive means of manufacturing sugar is used. The soil is very good, and a superior class of sugar is made. One drawback is the lack of water, and for that reason it would be impossible to start a large plantation in this district. In the neighborhood of Granada, San Rafael, and Pital there are a number of plantations, the former producing from 3,000 to 4,000 quintals of good vacuum-pan sugar, and the latter producing nearly 1,500 quintals of muscovado sugar. These plantations have English ma-

chinery. In the department of Leon there are two plantations, the Polvoncito and San Pedro, producing together about 6,000 quintals of excellent vacuum-pan sugar.

The actual price of sugar is 10 cents per pound (Spanish coin), and this has been the established charge for the past 3 years.

The annual production of sugar for the year 1890 was about 35,000 quintals. Since 1887 Nicaragua has imported yearly from Salvador sugar to the amount of 15,000 quintals.

WILLIAM NEWELL,
Consul.

UNITED STATES CONSULATE,
Managua, August 31, 1891.

MAZATLAN.

REPORT BY CONSUL LAMBERT.

This port is located in the State of Sinaloa, on the west coast of Mexico, in 23° 11′ 17″ north latitude and 106° 26′ 39″ west longitude.

COMMUNICATION.

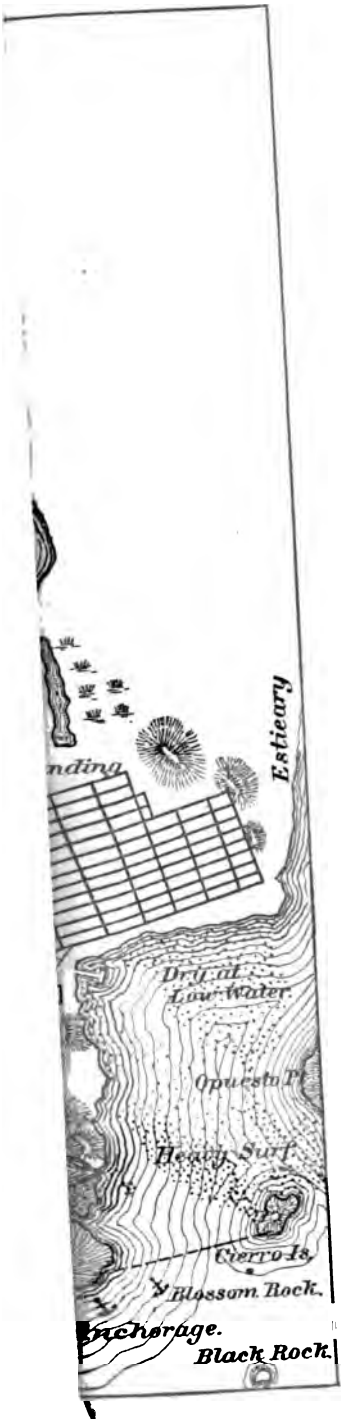
Regular communication with the United States is had four times monthly through the Pacific Mail steamships, which leave New York on the 1st and 20th, and San Francisco on the 3d and 13th, of each month. From the latter port the run is made in 5 days. Cabin fare from San Francisco is $65 and steerage $30. Communication is also had by the steamship *Newbern*, which leaves San Francisco on the 25th of each month, touching at San Diego and way ports on the coast of Lower California and points up the gulf as far north as Guaymas. Local steamers plying up and down the Mexican coast at intervals also carry passengers to Guaymas. By taking the train from the last-named point to Benson, on the line of the Southern Pacific Company of California, railroad communication is had to all portions of the United States.

STATISTICS.

Mazatlan is a city of about 16,000 inhabitants. It is governed by what we might call a common council. It has a good climate. The streets are paved and kept clean. It is lighted with gas. It has waterworks owned by private parties, a street railroad, a brewery, a foundry, a cotton factory, an ice manufactory, match and broom factories, a police system, a board of health, a hospital, as well as churches and schools. The public health is good, and yet there is an alarming absence of any sewerage system.

The consular service of foreign countries is represented as follows: Chas. Woolrich, esq., British; M. Luis Reynaud, French; Herr Wm. Sowerbutts, German; Señor Don Francisco Echeguron, Spanish; Señor Louis Canobbio, Italian; M. Alejandre Bertrand, Belgian; Señor Don D. A. Urrea, Peruvian.

In point of order, quiet, safety, and security for persons and property, night or day, although fully 50 years behind the United States in nearly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nding
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Low Water.
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Heavy Surf
Cierro Is.
Blossom Rock.
Anchorage.
Black Rock.

everything else, it would be extremely difficult to find the superior of Mazatlan.

A RAILROAD TERMINUS.

This port is on the line of deep-water traffic, and is the distributing point for the northern and central portions of the Pacific slope of Mexico; consequently it is the geographic key to any railroad system seeking tidewater in the Mexican far-west.

Several franchises, with subsidies, have been granted by the Government to railroad projects leading out of Mazatlan into the interior, as well as up and down the coast. The Government has declared them all forfeited for nonfulfillment of contract.

In a daily paper published here, called El Correo de la Larde (the Evening Mail), an article appeared several days ago, which is translated substantially as follows:

The engineers of the Mexican International Railroad, of which Mr. C. P. Huntington, of New York, is president, have located depot sites and yards at Durango, having finished the preliminary survey for extending their road from Torreon to that point.

The city of Durango is 180 miles northeast from Mazatlan. It has since been published that a new subsidy has been granted by this Government to an American company to extend an overland road from Tuxpan, on the Gulf of Mexico, across the continent to this city.

THE HARBOR.

Inasmuch as this port will ultimately be the great commercial center of Mexico on the Pacific, our American railroad builders should understand in advance what they will have to encounter here in the way of harbor difficulties and terminal facilities. During 8 months of the year, viz, from November until June, this harbor or island-dotted roadstead, as well as all others on the Pacific coast of Mexico, is an orderly and "well-conducted" body of water. During the other 4 months, viz, July, August, September, and October, which is the rainy season, this coast is subject to frequent sudden and very violent equinoctial storms. The winds at this season are from the south. The harbor has an open, unprotected southern exposure, a poor holding ground at anchorage, and when the barometer tells of a coming storm all vessels, large and small, immediately weigh anchor, put out to sea, and ride it out, or seek shelter on the north side of Venado Island.

In order that this report may be reasonably intelligible, the accompanying rough sketch is made on a convenient scale, which will convey a practical idea of the situation. Full and accurate data can be found in chart No. 1024, United States Coast Survey, 1888.

The bar is inside what would appear to be the harbor of Mazatlan, and is represented on the sketch as shoal water and "heavy surf." It lies about midway between the present anchorage and the wharf, or water front. During a blow of any magnitude the water breaks fearfully over the bar and absolutely cuts off all communication with the shore, and it can become per-

ilous in half an hour. To protect the present harbor (so called) during the dangerous season, a breakwater would have to be built between Creston and Cierro islands, as indicated by the dotted lines. The distance is about half a mile. The inlets between Creston and Azado islands and the peninsula which extends out from the mainland on the west are too narrow and unsafe for large vessels; besides, they would have to be cleared of rocks. On the east, between Cierro Island and Opuesto Point, or what might be called the mainland, there are very shoal, changeable sands, and they would have to be continually dredged. In the event of a safe and commodious entrance being made on either side, the greater and more fatal disadvantage to the harbor thus protected lies in the scarcity of room for large vessels to swing while lying at anchor inside the proposed breakwater. It will thus be seen that the present harbor of Mazatlan is practically unimprovable for deep-water traffic during a period of 4 months each year.

In the earlier days of this Republic the landing place, or *embarcadero*, was located north of the city, which will be noticed on the map. I have been unable to learn why it was changed. This location, which is safe all the year round, is capable of improvement into a large and commodious harbor. It can be accomplished by building a breakwater from either Point Tiburon or Point Chile, a little north of west, about a mile and a half, as represented by the dotted line on the map. It would also be a harbor of refuge for the gulf coast. Here could be had perfect protection, good holding ground at anchor, and plenty of room and water. Chile, Peresel, and Tiburon points are high, rocky bluffs, which would furnish all the rock needed for the breakwater. A wharf could either be constructed from the mainland to deep water or the inside of the breakwater could easily be utilized for wharf purposes. This great and commendable public improvement could be done for much less than the Government is now expending on the harbors of Veracruz and Tampico. It would be permanent, and in a short time Mazatlan would equal, if not excel, Veracruz in commercial importance.

The terminal facilities for a railroad entrance on the north of the city are natural, and can be easily and cheaply acquired if purchased early. As the city is now built, there is no feasible entrance for a railroad on the south water front except by purchase at fancy prices of improved property, which would all have to be destroyed, at a cost as large, if not larger, than the purchase of property and the erection of the necessary buildings and wharf on the north side. I have personally been over all the ground especially to obtain this information, and I find that ample space for large yards, shops, and other buildings on comparatively level ground, presenting commodious and ready facilities for transshipment, are only obtainable on the north side.

RAILROAD TO ROSARIO.

With this harbor improvement on the north side, the construction of a railroad no further into the interior than Rosario, a distance of about 45 miles southeasterly, would be a paying investment. That fact has been demon-

strated from data collected by English engineers sent here to investigate and report on that subject only.

In the event of a railroad being built from Torreon to Durango and thence to Mazatlan, a direct commercial connection by rail and water is established from southeastern Texas to the Pacific coast of Mexico and all the islands and countries bordering on the Pacific Ocean. The route through the Sierra Madre would furnish the United States with all the pine and oak timber needed for years.

From the most reliable information obtainable, the route from Durango to this port would present no insurmountable engineering difficulties. It would necessarily cross the Sierra Madre, a continuation of our Rocky Mountain range, and, substantially, the present road followed by the native pack trains between these two points would guide the railroad engineer. Passes are as liable to be found here as in the United States, but great precaution would have to be observed in selecting and building through them in this country, for the reason that during this season, either from heavy rainfall or frequent cloud-bursts, the dryest mountain pass is suddenly transformed into a wild, roaring cataract, scarcely less fearful than the whirlpool of Niagara.

Sinaloa is to-day one of the leading producers of precious metals in this Republic.

EXPORTS.

The shipments of silver ore, silver bullion, precipitates, etc., from the port of Mazatlan alone during the past year were as follows:

Month.	Amount.	Month.	Amount.
1890.		1891—Continued.	
September	$286,326.21	March	$287,999.69
October	520,356.95	April	453,717.89
November	417,609.42	May	388,538.95
December	474,376.32	June	379,942.14
1891.		July	380,208.92
January	406,371.31	August	914,744.14
February	482,879.16	Total	5,393,071.09

During this period there were exported from Mazatlan, in round numbers, about $2,000,000 (Mexican), coined at the mint in Culiacan, the capital of this State, and about $16,000 in gold bullion. Silver bullion here will not average over 3½ per cent. in gold. Some mines run much higher than this figure, but others among the most productive carry only a trace of gold.

The declared exports of merchandise other than precious metals, consisting of hides, dyewoods, pearls, fruit, etc., will not exceed $100,000 annually. It is purely a mining state, and its possibilities, with American machinery and methods of mining, are reasonably encouraging for a large increase in the near future.

RICHARD LAMBERT,
Consul.

UNITED STATES CONSULATE,
Mazatlan, September 1, 1891.

EGYPTIAN SHEEP AND WOOL.

REPORT BY VICE-CONSUL-GENERAL GRANT, OF CAIRO.

CULTIVATED LAND.

The following table shows the cultivated area of each province of Upper and Lower Egypt according to the land survey made in 1886.

Provinces.	Area.	Provinces.	Area.
Lower Egypt:	*Feddans.**	Upper Egypt—Continued.	*Feddans.**
Kalioubieh	187,179	Beni-Souef	231,610
Sharkieh	434,362	Fayoom	230,110
Dahkaleyeh	462,366	Minieh	397,240
Gharbeeyeh	838,980	Assioot	419,099
Menoofeeyeh	351,710	Girgeh	325,914
Behera	465,610	Keneh and Esneh	280,927
Upper Egypt:			
Gheezeh	181,175	Total	4,956,748

* 1 feddan = $1\frac{1}{20}$ acres.

SHEEP.

Number.—The number of sheep in a flock ranges from 50 to 500. There are one, two, or three flocks belonging to each village, which are owned generally by one or two persons, and sometimes by several. The following table, taken from the official registers, shows the number of sheep in each province in Egypt:

Provinces.	Number.	Provinces.	Number.
Lower Egypt:		Upper Egypt—Continued.	
Kalioubieh	37,024	Beni-Souef	37,454
Sharkieh	87,328	Fayoom	28,600
Dahkaleyeh	71,982	Minieh	36,013
Gharbeeyeh	116,537	Assioot	135,775
Menoofeeyeh	78,005	Girgeh	161,237
Behera	100,504	Keneh	61,106
Canal Mahmoodeeyeh	56	Esneh	20,130
Upper Egypt:			
Gheezeh	68,926	Total	1,040,577

The above total does not include lambs under 1 year old. The number of sheep never exceeds that total, because if lambs under 1 year old are not counted, equal numbers of sheep are killed.

The flocks are composed chiefly of ewes, most of the males being killed for food. Formerly all sheep over 1 year old were taxed, but the sheep and goat tax has been abolished.

Washing and shearing.—When the Nile begins to rise, about June 17, the flocks are driven to the river, and the sheep are washed with the aid of a cow's rib. After washing they are exposed to the sun for 2 or 3 days, until

their wool becomes quite dry. They are then shorn on mats placed on the ground. The wool is then sorted according to color and prepared for market. Shearing takes place once a year.

WOOL MANUFACTURES.

The wool is often sold in the fleece. It is sometimes made into loose cloaks, blankets, sacks, counterpanes, etc., generally used by the lower classes.

In preparing it for use, the wool is carded on a small board studded with nails. It is spun by means of a small spindle, which is twirled by hand. A spinner gets from 6 to 12 piasters (30 to 60 cents) per pound, according to the quality of his work.

The weaving is done on the old-fashioned wooden hand loom. At Akhmym, in Upper Egypt, a native weaver is paid from 15 to 30 piasters (75 cents to $1.50) per piece weighing from 2½ to 3 pounds. He weaves about one piece of fine work per week and two of coarse work.

Dyeing takes place after weaving at a cost of from 20 to 50 piasters ($1 to $2.50) per piece, according to the dye used.

There are no great woolen factories in Egypt, but the looms are scattered in small numbers over the country. According to Mr. Felix Mengin, in his "Histoire Sommaire de l'Egypte, 1823–'38," published in 1839 (page 163), there were in Egypt in 1833 four thousand looms for weaving woolen stuffs. These stuffs were used to dress the fellahs and the sailors and for bed covers, etc. The coarse wools of Upper Egypt were chiefly used for those purposes, not being suitable for any other use.

I find by this same work that in the time of Mehemet Ali a cap (*tarboosh*) factory was established at Fooah. The first manager of this factory was a Moghrebin merchant. He introduced skilled workmen from Tunis, who taught the Arabs how to knit, press, and dye the caps. The wool used in the manufacture of these caps was brought from Alicante. This industry reached a daily production of 60 dozen caps of different prices and qualities, which were used by the soldiers. The surplus was sold to local merchants.

At Damanhoor there was also a factory where coats and blankets were made for the sailors and soldiers. The weaving was done at Damanhoor, and the cloth was sent to Boolak, near Cairo, to be pressed and dyed.

The factory at Boolak was established by Mehemet Ali in the face of many obstacles. He secured the services of several Frenchmen from the factories of Languedoc, in France, to teach the Arabs, and also sent young Arabs to France to learn the trade. The monthly production reached about one hundred and eighty pieces of cloth.

The wools of Damanhoor and the province of Minieh were considered the best for making cloth. It was thought that the quality of the wool would be improved by keeping the sheep away from the dust and sun as much as possible and by washing them before shearing. Besides Egyptian wools, those of Tunis were used. Albanian and Syrian wools were tried, but

their quality was found too inferior. The cloth manufactured was found very serviceable for the soldiers, who were not in the habit of taking good care of their clothes.

The following paragraph, quoted from McCoan's "Egypt as It Is," gives an idea of the condition of the weaving industry about 40 years later:

Of the private trade of the country, numerically the most important is that of the weavers. Of these about 1,600 are employed in the three Dana factories of Fooah (belonging to the queen mother), Boolak, and Shoulrah, near Cairo. The first of these manufactures nearly fifty thousand *tarbooshes* (Egyptian fez) a year, of which the supply required for the army and navy is sold to the minister of war and the remainder to the public. They also turn out annually about £315,000 ($1,575,000) worth of woolen cloth, the greater part of which is similarly bought for the troops. The wages in these establishments average about 16 cents a day.

This industry, however, is mainly carried on in private workshops, of which, according to the latest available statistics, there are in Cairo 60 weaving mixed cotton and flax, 20 woolen cloth, and 11 manufacturing carpets, besides 107 others spinning and preparing woolen and cotton yarn for the loom, and in Alexandria 38 weaving cotton cloth and 31 making carpets; in Damietta 166 shops weave silk, besides 62 others which are employed in dyeing it.

One of the chief industries of Beni-Souef is carpet-making and the weaving of coarse linen stuffs for the fellahs. The rest of the hands engaged in textile work are employed in various other parts of the country in shops of from one to a dozen or more looms. The wages in this trade vary in different districts, but 18 cents a day is about an average of the whole.

It appears that the three factories of Boolak, Shoulrah, and Fooah, above mentioned, are no longer in existence. Although I have made many inquiries, I have been unable to learn of any such establishments worthy of the name of factories.

BREEDS OF SHEEP AND GOATS.

There are no special designations for the breeds of sheep in Egypt. They are mostly native Egyptian sheep, but some are imported from Syria. Sheep are raised chiefly for meat. The following paragraph is quoted from McCoan's "Egypt as It Is":

As sheep and goats herd together and differ but little in size, color, and coat, they may be here conjointly mentioned. Both are very prolific, the gross total of a year's lambs and kids exceeding 800,000, the sheep, especially, lambing twice in the year, with, usually, two at a birth. Of the latter the breeds differ, according as the rams were from Barbary, the Sennaar, or the Heofaz. The first of these three varieties is the most numerous, and is of the mouflon type, with a heavy, fat tail, a long, bushy chin tuft, and a thick, but coarse, oily fleece of wool. Their horns are large, with a triangular base and rounded angles, terminating in a sharp point. The goat abounds most in the delta, where the commonest breed is of Syrian origin. The type of the animal in Upper Egypt is smaller, with an abundant fleece of long, silky hair, resembling that of the Angora goat. In both sections these animals supply the greater part of the milk and butter used in the country. The former is good, but of the latter, as made by fellah dairy women, the less said the better. As the food of both animals is the same—the weeds and dry, acrid plants on the edge of the desert—the flesh of both has the same rather sour flavor, but is still superior to that of the Syrian sheep, which is largely imported, and sells at a lower price.

The wool, also, has no special commercial designation. It is coarse, but not so coarse as Syrian wool.

GENERAL REMARKS.

I am informed by a merchant that the amount of Egyptian wool used for local consumption has greatly diminished since European ready-made clothing was introduced. It is calculated that only about 2,500 to 3,000 cwts. of the whole annual production of 20,000 to 25,000 cwts. are consumed in the country. The remainder is exported, chiefly to England, according to custom-house statistics.

The total exportation of wool from Egypt in the year 1889 amounted to 29,434 cwts.,* estimated at $312,409, of which 28,675 cwts., valued at $304,701, were shipped to England, where it is used chiefly for blankets and carpets.

According to information obtained on April 3, 1891, from a principal merchant, the prices of Egyptian wools ranged from $10 to $16.50 per cantar, or cwt. of 99 pounds; best extra white from Mellawee (Upper Egypt) was sold at the last auction sales at 21½ cents per pound at Liverpool; for best whites from the provinces around Cairo prices were quoted at from 18 to 19½ cents per pound.

The consular agent at Port Said informs me that the importation of sheep from Syrian ports during 1889 amounted to 16,695 head and for the first 6 months of 1890 to 7,400 head. The skins of those slaughtered there are sold at about 1 franc (19.3 cents) and exported to the Greek islands.

Samples of Egyptian wools and woolen stuffs are appended to this report.†

LOUIS B. GRANT,
Vice-Consul-General.

UNITED STATES CONSULATE-GENERAL,
Cairo, September 11, 1891.

COMMERCE AND AGRICULTURE IN CAPE COLONY.

REPORT BY CONSUL HOLLIS, OF CAPE TOWN.

FOREIGN COMMERCE.

In my report of October 15, 1890, the financial condition of Cape Town was pictured. There were many who took the most gloomy view of the situation, and who predicted that it would be long before the mercantile community could rally from the effects of the blow received. The close of the financial year, however, has found the colony generally in a healthy and prosperous condition, and all indications point to a large increase in the volume of business, notwithstanding the falling off in Government railway returns.

* It will be noticed that the merchant's figures are an annual production of from 20,000 to 25,000 cwts., while the custom-house statistics show an annual exportation of 29,434 cwts. I have used the merchant's figures to show the proportion of wool exported and that consumed in the country.

† Samples sent to the National Museum.

At the close of the calendar year 1890 the surprising fact was shown that the imports into Cape Colony for the year amounted to £8,470,550, an increase of £528,044 over the previous year, which was nearly 50 per cent. advance over the year 1888.

The exports for the year 1890, including gold and diamonds, were £9,969,165, an increase of £563,210 over 1889. While diamonds fell off £163,127, there was a decrease of 457,252 carats, showing no inconsiderable increase in value. The total value of diamonds exported was £4,162,000. The value of gold exported was £1,445,039, against £860,495 in 1889. I may here remark that the output of the mines in the Transvaal show a steady increase each month, and an improved method of working is recovering much fine gold in tailings of previous years. With a monthly output of nearly 60,000 ounces, the product of the current year may be safely estimated at £2,500,000.

AGRICULTURE.

From an agricultural point of view the retrospect is not so pleasant. With rust in wheat and drought, which also caused the loss of many lambs and ostriches, the colony has been obliged to import large quantities of wheat and breadstuffs, mostly from Australia, as follows: Wheat, £211,571; flour, £20,199; corn, £4,280; oats, £1,631. A similar condition existed in 1881, 1882, and 1883, gradually decreasing in amount until 1889, when the combined value of all the articles enumerated only reached the sum of £32,243. The season now opening promises better returns to the husbandman.

Coupled with the scanty harvest of cereals was a considerable decrease in the price of wool, probably 20 per cent.

From the cause I have stated the number of sheep, goats, and ostriches returned in the colony is 10 to 15 per cent. under the number returned in my report last year.

Ostrich feathers which, in the earlier portion of this year, were bringing fair prices and the exportation of which was going forward briskly, received a sudden check by the rapid decline in prices.

Despite the phylloxera, which has made considerable ravages among the vineyards, the number of vine stocks returned is greater by 2,000,000 than the number returned last year, and is now 88,084,000. The product of wine was greater by 1,000,000 gallons, while the average price was about that of the previous year.

IMPORTS FROM THE UNITED STATES.

It is gratifying to note that the importation of agricultural implements is steadily on the increase, being £69,412 in 1890, against £25,118 in 1887. Of these (including implements and tools) £30,515, nearly one-half, came from the United States. Our trade in these articles should be largely increased. Other goods were imported from the United States as follows: Ale and beer, 522 gallons; lubricant grease, £555, 10 per cent. of total

importation; 500 single-barrel guns, out of a total of 10,000; cartridges and cases, £1,720, about 15 per cent.; blacking, 10 per cent.; brushware, £2,300, 16⅔ per cent.; butter, 10,246 pounds, out of a total of 706,000 pounds; carriages and carts, £9,155, more than 50 per cent.; other wheeled vehicles, including wheelbarrows, £21,000; cheese, 1,500 pounds, out of a total of over 1,000,000 pounds; clocks and watches, £1,038, only 5 per cent.; cordage, £4,158, 20 per cent.; wheat, £6,000, out of a total of £211,500; flour, £531, against £17,785 from Australia; cotton manufactures, £2,205, out of nearly £500,000; drugs and chemicals, £5,000; furniture, £13,308, out of £179,319; hardware and cutlery, £231, out of £36,000; wire fencing, £10,000, 16⅔ per cent.; other wire goods, £15,-500, out of a total of £437,000; tools, £9,000, out of a total of £12,700; musical instruments (largely parlor organs), £5,458, 10 per cent.; lard, £3,788, more than 50 per cent.; leather, £3,773, nearly 25 per cent.; linen piece goods, £4,394, out of a total of £35,463; agricultural machinery, £4,000, out of a total of £21,000; preserved meats, £579, out of a total of £30,728; petroleum, £34,474; lard oil, £7,907; turpentine, £2,437; preserved fish, £3,859; preserved fruit, £658; preserved meats, £8,606; other provisions, £3,225, out of a total of £157,000; railway olling stock, £242; soap, £511, 10 per cent.; spirits of all kinds, £66, out of a total of £125,000; books, £380; stationery, £1,252, 1 per cent.; refined sugar, £4,486; unrefined sugar, £541; unmanufactured tobacco, £7,465, out of a total of £9,184; cigars, £366, 1 per cent.; cigarettes, £531, out of a total of £18,775; other manufactured tobacco, £2,938, nearly 25 per cent.; unmanufactured wood and timber, £14,052, out of a total of £82,459; planed and grooved, £16,900, 33⅓ per cent.; other than furniture, £26,912, more than 50 per cent.; stoves, £3,269, out of a total of £47,000; other unmanufactured wooden goods, £168, out of a total of £20,000; other manufactured wooden goods, £112, out of a total of £4,312.

Besides these, the Government imported for its own use hardware to the the value of £481, out of a total importation of £45,500; machinery, £391, over 10 per cent.; petroleum, £1,167; railway material, £3,050, out of a total of £631,731; wood and timber of all kinds, £2,664, out of a total of £14,000.

There is no reason why our carriage-builders could not make and ship the two-wheeled "Cape cart," so much in vogue here. We also ought to sell more furniture. Practically, all the petroleum sold in Cape Colony is imported from the United States. Our merchants could improve their sales of hardware and cutlery; I have noticed that a sample case of edged and other tools attract orders.

Many articles imported from the United States, coming by steamer from England, are credited to that country.

I notice that of the following goods we are not credited with importations: Candles, £37,265; jams (and this is a jam-making country, with a

drawback on sugar entering into its manufacture), 2,144,879 pounds, valued at £55,453; corks and bungs, £5,904; maize, 2,129,241 pounds, valued at £4,280; plated ware, £17,479; printing paper, £20,193; boots and shoes, £422,983.

Over 18 months ago I introduced a manufacturer from the United States, who was here for his health, to the trade, and he expressed perfect confidence in the ability of our manufacturers to enter the colonial market. Since his return I have heard nothing further on the subject. The field seems worth trying for.

Masters of American vessels, like consuls, may be considered commercial missionaries, and the influence they have in the matter of trade is seldom properly estimated. It will readily be seen that masters of foreign vessels bringing cargo from the United States to a port like Cape Town know little and care less for our interests. With our own masters, however, the case is quite different, and seldom does one arrive here without dropping some useful hints in respect to our ability to supply natural or manufactured products. A recent instance of this kind occurs to me in the matter of roofing slate, where the captain, coming from a slate-producing section, gave evidence to show that it could be imported from the United States for, say, $10 less per thousand. When our commercial marine is placed in a more favorable condition, with greater regularity in the sailing of vessels, particularly if steam takes the place of sail, a much larger volume of trade will be assured.

One peculiarity in charter arrangements which I have long suspected, and an instance of which I have just discovered, is discrimination in the rates of freight. In this instance a merchant had chartered a vessel at, say, 24*s*. Partly filling the vessel with his own freight, he charged those who usually shipped in his vessels 28*s*., while those who shipped in the vessels of his rivals in business he charged only 20*s*. per ton.

In two new branches of exportation to this colony the United States have made a beginning, which will, I trust, be largely increased. The first is locomotive engines and rolling stock, two of the former and twelve of the latter having been recently landed, and of which it is yet too early to speak. The other is the introduction of Vermont merino rams, three lots of which have been recently landed, and of which I shall have something to say after fuller results are known. For 2 years I had corresponded with some of our sheep-breeders and had almost despaired of a successful result when a new correspondent, Mr. Charles R. Witherell, of Cornwall, Vt., wrote for my views on the subject, and, after receiving my reply, brought out forty head, and is now disposing of them at Port Elizabeth.

CENSUS OF 1891.

The measures taken to insure an accurate census of the people of the colony were very thorough, and the result is probably the most correct count ever made here. The total population is found to be 1,527,341, divided as

follows: Whites, 376,812; aboriginal natives, 847,823; all other colored, 302,651. The latter are made up of mixed natives, Malays, etc. The population at the time of the last census (in 1875) was 1,028,966, of whom 337,000 were white. Cape Town returns a total population of 51,083, and the Cape division, comprising Cape Town and suburbs, 84,903; East London, 7,851, and, with suburbs, 21,468; Port Elizabeth, 23,897, and, with suburbs, 25,168.

The preponderance of the native and mixed races over the whites has been in the nature of a surprise, and, while the saying was current here 2 years ago that there was no "native question" in the colony, it is now seen that it is a prominent question.

CAPE TOWN.

The spirit of enterprise is abroad in all the cities above named, but of Cape Town alone shall I deal, as it is the best known South African city, which 5 years ago was possessed of the most unsavory reputation in respect of what will soon be remedied—drainage and sanitary arrangements generally. This paper is now too long to more than touch upon plans which will redeem the city.

The drainage scheme just favorably passed upon, the expense of which will be borne by the city and colonial governments jointly, contemplates 42 miles of piping and an irrigation farm, for which 1,000 acres of practically waste, sandy land have been secured a few miles from the city, which amount can be doubled.

A tunnel has been drilled 2,000 feet into Table Mountain, and an abundance of the purest water in the world is now supplied to the people. This water is brought in 5 miles of piping from an elevation of 1,700 feet above sea level into a capacious reservoir 300 feet above sea level.

Electric lighting will probably soon come, and it is possible that water from the mountain may be utilized for power needed, as well as for other purposes.

GEO. F. HOLLIS,
Consul.

UNITED STATES CONSULATE,
Cape Town, August 18, 1891.

SISAL AND RAILROADS IN YUCATAN.

REPORT BY CONSUL THOMPSON, OF MERIDA.

SISAL HEMP.

Yucatan, one of the rich States of the Mexican Republic, is under a cloud of gloom. The insect plague that in the past has ravaged her plantations in a single hour, stripping them bare of every succulent leaf and twig, has ceased to trouble her. Her crops, with perhaps the single exception

of sugar cane, have yielded abundantly, and yet the planters are despondent and the merchants are doleful.

This apparently anomolous state of affairs is explained in the complaint made to me the other day by a prominent planter. "Of what use," said he, "is it to talk to me of good crops and all that when the price of hennequen in New York is falling, and who knows where it will stop?" That is the key to the situation. The price of hennequen has fallen and is still falling, and the planters are anxiously inquiring when it will stop. They have reason to be anxious. Only the cordage companies of New York, and, possibly, not even they, can tell when hennequen will stand firm.

Hennequen fiber, or, as it is better known in the commerce of the United States, sisal grass, is the chief, indeed almost the only, exportable product of Yucatan, and, consequently, the principal source of income. No other crops can bring the princely incomes lately yielded by the hennequen plantations to their fortunate owners; in fact, no other crops can be made to pay any income whatever from the class of land devoted to hennequen culture.

There are sugar plantations in Yucatan—and large ones, too, which I shall describe at some future time—but as yet they are few in number and their entire output is consumed at home. There are rich sugar lands in abundance. In the unexplored regions beyond the mountains, the home of the Sublevados Indians, I have ridden for hours amid valleys of rich sugar lands as yet unknown to the planters. The proximity of the rebellious Mayas, inadequate water supply, and lack of laborers are the chief reasons why sugar is not a more important factor in the commerce of the State.

When I state that the export of the hennequen fiber and its manufactured products, in the shape of cordage and hammocks, during the fiscal year ended June 30, 1891, had a value, in round numbers, of $4,500,000 American gold, while the combined value of all other exported articles barely reached $175,000, it can be easily seen why Yucatan and her people are buoyant or despondent according as the price of hennequen rises or falls. With hennequen at 8 cents per pound, what matters it to the planter whether the corn crop is good, bad, or indifferent? If it be good, so much the better; if it be bad, hennequen will remedy the matter, bring the corn from the exterior, and pay for it easily and quickly. But with hennequen at 4 cents per pound and still falling, nothing can alter the general despondency.

I do not think the outlook for the State is actually as bad as is generally believed. It is simply the inevitable reaction following a period of feverish prosperity and business excitement. During the period of high prices, as described by me in a previous report, habits of extravagance and luxury were born, carried in some instances to extremes, and this went on as though it were to last forever. A few knowing ones, realizing that a fever in business, like that in the human body, must sooner or later end in extreme debility, made their plans accordingly; but the majority kept on, secure in their belief that the price of hennequen would remain at a high figure. Consequently, when the price of hennequen and their incomes simulta-

neously dropped to 50 per cent. of their former proportions and their expenses remained the same or increased, they very naturally grew despondent and felt that the sun had ceased to shine upon Yucatan. The merchants, as they gazed upon their piles of unsold merchandise, thought so too. But the fathers of the Yucatecos of to-day had to work for their living, as did ours of the northern Republic, and thus bequeathed to their descendants a spirit of perseverance and independence. As soon as they had a chance to calmly survey the situation, they sought to remedy matters as far as possible. They saw that hennequen at even 4 cents per pound would still yield them an ordinary profit, but not the extraordinary gain they were accustomed to consider as a legitimate one, if they could by any means relieve themselves of the burdensome expenses incurred while under the golden illusions of the past. Accordingly luxurious carriages and blooded horses, diamonds and jewels that perhaps queens had owned, and certainly queens would covet, were quietly offered for sale for cash, and general economy once more reigned in place of luxurious extravagance. The merchants, to pay their bills and save their credit, opened their stores from time to time with "startling bargains" and marked down their goods to what were, for Yucatan, extremely low figures for cash. Thus, at the end of the fiscal year, while anxiety as to the future is felt, the outlook is not without its redeeming features.

Some heavy failures have occurred; but the community in general have stood by each other individually wonderfully well, and, as a result, they have been felt much less than would have been the case otherwise. Many a struggling firm will thus probably be able to pull through the present crisis and wait until better times will enable them to repair damages.

RAILROADS.

Meanwhile the railroads, those arteries of commerce, are gradually working their way toward becoming important factors for future prosperity. The Merida and Peto Railroad, described in a previous report, has now pushed is way to within a short distance of Tekax, an important center of the sugar industry. The president of the company, Don Rodulfo Canton, a gentleman well known in New York, assures me that within 6 months I shall be able to ride into Tekax behind a locomotive. This locomotive and the cars were purchased in the United States. The Valladolid and Calkini railroads are also making progress. These facts mean much to Yucatan, bringing, as they do, Merida, the capital and the center of the sterile hennequen belt, into direct and constant touch with the fertile agricultural districts of the south and east.

EDWARD H. THOMPSON,
Consul.

UNITED STATES CONSULATE,
Merida, August 25, 1891.
No. 134——6.

THE GERMAN SUGAR TRADE.

TRANSMITTED BY CONSUL-GENERAL EDWARDS.

[Translated from the annual report of the Berlin Chamber of Commerce.]

The status of this article in 1890 was satisfactory. The largely increased production was offset by the still more largely increased consumption. Prices were less influenced by speculative fluctuations. The chief fluctuations were caused by the fear at first that the large production could not be disposed of, and afterwards by the surprising fact that at the end of the season there was a reduced balance on hand. The last months of the year, the first of the season of 1890–'91, suffered less than usual from the prospect of large crops, a continually increasing consumption being counted on. Still, by mere comparison with 1889, the importance of this agreeable fact may easily be overestimated. The year 1889, with its abnormal conditions caused by extravagant speculation, is not a suitable basis of comparison. The increased consumption, moreover, gives no excuse for increased production; it merely creates a price which enables the industry more easily to bear its increased expenses arising from the price of coal, higher wages of labor, and the new social legislation.

The year 1890 did not, however, close without serious uneasiness for this industry from the prospect of a change in the sugar tax. The negotiations in this direction between the Imperial Government and the Reichstag were not concluded until May 9, 1891, by a sort of compromise, through which the result is somewhat more favorable for the sugar industry than was threatened by the original governmental bill. By this compromise a second important step has been taken towards the removal of the export bounties, the first being the law of 1887. At that time the export premiums were reduced about one-half, the material tax being reduced. Now, however, about half of the bounties left a few years ago have been taken away and at the same time the material tax entirely abolished, the rest of the bounties being retained for 5 years, with a decrease after the first 3 years of this period. This compromise was accepted by 159 against 126 votes in the Reichstag. The bounty will amount to 1.25 marks per double centner for the years from August 1, 1892, to August 1, 1895, and to 1 mark for the 2 following years (the governmental bill offered only 1 mark for a period of 3 years).

At the end of this period the industry will have had time to prepare for the future, but a halt is now called to its further unhealthy extension. From 1886 to 1889 the use of beets in the German Empire rose from 70,000,000 double centners to 106,000,000 double centners, with a corresponding increase of exportation.

By raising the consumption tax from 12 marks to 18 marks the receipts of the imperial treasury are increased, but by the abolishment of the material tax sugar prices can, to a certain extent, fall, as the domestic price will be the market-of-the-world price plus the reduced export premium.

The following tables give the production, exportation, and price of sugar:

Table showing the production of beet sugar from 1881–'88 to 1890–'91.

Where produced.	1887–'88.	1888–'89.	1889–'90.	1890–'91.*
	Centners.	*Centners.*	*Centners.*	*Centners.*
Germany	18,848,820	19,812,000	25,292,140	26,500,000
Europe	48,311,060	55,076,800	72,383,560	73,800,000
German colonies	50,000,000	46,375,000	40,098,828	46,400,000

* Estimated.

Table showing the German sugar export.

Description.	1887–'88.	1888–'89.	1889–'90.	1889.*	1890.*
	Centners.	*Centners.*	*Centners.*	*Centners.*	*Centners.*
Raw sugar	10,478,463	12,300,000	15,941,840	4,277,700	5,986,300
Refined sugar	3,060,000	3,600,000	4,502,720	1,421,750	2,005,600

* August to December.

Table showing the prices of sugar in Magdeburg per 50 kilogrammes.

Date.	Raw sugar.*	Ground melis.	Loaf sugar.
	Marks.	*Marks.*	*Marks.*
January 3	21.00	25.00	27.50
June 13	22.00	26.00	28.00
August 15	24.00	27.25	29.50
December 20	22.00	25.50	27.50

* Basis, 88 per cent. refining value.

The use of sugar in Germany per head of population was: In 1885–'86, 15.4 pounds; in 1886–'87, 18.2 pounds; in 1887–'88, 18.6 pounds; in 1888–'89, 16.6 pounds; in 1889–'90, 20.8 pounds.

THE CHEMICAL INDUSTRY OF BERLIN.

TRANSMITTED BY CONSUL-GENERAL EDWARDS.

[Translated from the annual report of the Berlin Chamber of Commerce.]

In the year 1890, taken as a whole, the chemical industry of Berlin was in a very satisfactory condition in spite of constantly increasing cost of production, due to increased prices of coal, raw materials, and labor, and to the burdens imposed by State legislative measures adopted for the good of the working classes. For these reasons, and on account of increasing competition, prices of manufactures did not improve. Although the export trade was rendered difficult by increased duty rates in Russia and America, yet the production of chemical manufactures did not decrease in quantity, but, on the contrary, in some articles increased very considerably. On account of the confidence which prevails in trade and commerce and of the peaceful political outlook, it is hoped that this comparatively satisfactory state of affairs will continue.

Taking individual articles into consideration, it is reported that in 1890, as in 1889, sales of sulphate of ammonia were light. There was no temporary scarcity of wares as was the case in the fall of 1889. The demands of consumers could all be met, and no important stocks were carried over into the new year. The average price for the Berlin manufacture, which, as heretofore, was preferred to others, was 26 marks per 100 kilogrammes.

For carbonate of ammoniac prices remained as in the preceding year, for quantities 65 marks, and for single casks 67 to 68 marks, being quoted for 100 kilogrammes.

White crystallized sal ammoniac brought 58 to 60 marks for best technically clean wares. Lower grades, of which much was on the market, were sold cheaper. Aqua ammonia (spirits of sal ammoniac) 0.91 remained unchanged at 33 marks per 100 kilogrammes.

Potash was at first, as is almost always the case, placed on the market at very low prices; no satisfactory reason can be given for this, as near the end of the year—as had also been the case in the last months of 1889—wares became very scarce and buyers were obliged to accommodate themselves to prices even above 40 marks per 100 kilogrammes. The cheap prices

appear to have been due to the fear of certain manufacturers that they would not be able to entirely dispose of their production. This fear was, however, as experience has shown, unfounded. Quotations were, as in the preceding year, 36 to 37 marks per 100 kilogrammes for 96 to 98 per cent. wares.

Concerning the continued development of the Strassfurt potassium (kali) industry, which exercises a controlling influence on the manufacture of potash and other articles in Berlin, the following figures give a clear idea. In the year 1890 the State and private potassium works produced the following quantity of raw salts for manufacturing purposes:

	Metre centners.*
Carnallite	8,105,298.66
Kainite	639,617.43
Sylvanite	207,315.25
Schönite	434,115
Other	3,337

From the above were manufactured:

	Metre centners.
Chloride of potassium (80 per cent.)	1,406,847
Bisulphate of potassium (90 per cent.)	121,660
Crude potassium-magnesium sulphate (48 per cent.)	96,467
Calcine manure salts	23,995
Kieserite	346,494

There were also sold for agricultural purposes 2,934,145.95 metre centners of kainite and sylvanite and 250,970.58 metre centners of carnallite and kieserite, and for baths and industrial purposes about 26,300 metre centners of carnallite and kieserite. The prices for these salts remained practically the same as in the year 1889.

The trade in oxalic acid was very active, but prices fell far behind those obtained in 1889. The cause of this was a certain haste to sell at cheap prices at the beginning of the year out of fear of English competition. The average price was about 55 marks per 100 kilogrammes.

Chlorate of potassium could not entirely recover itself this year. Often prices seemed to have a rising tendency, but the improvement could not be maintained. In this article there was a decided overproduction. Quotations fluctuated between 90 and 100 marks per 100 kilogrammes.

In prussiate of potash and borax business was regular, and the prices of the preceding year were maintained.

In soluble glass (*Wasser glas*) sales somewhat increased, but, in spite of increased demand and higher prices for the alkalies needed in its production, prices remained unchanged, and no improvement could be reached on account of continued overproduction.

The prices of calcin and caustic soda rose steadily until the middle of the year; in crystallized soda this could not continue, owing to overproduction. In comparison with ammonia-soda quotations, the prices for crystallized soda should have been considerably higher than in 1889. A convention of crystallized-soda manufacturers was called for the purpose of considering how the condition of affairs could be improved; but nothing was done, owing to the smaller manufacturers demanding advantages which the larger manufacturers were unwilling to grant them.

Sulphuric acid was in demand throughout the year, but there was no scarcity of wares. The price for 66° wares was 7 marks per 100 kilogrammes.

Prices of Chile saltpeter rose near the end of the year 1890, principally on account of the unsteady state of affairs in South America, and a further rise is expected. The quotation for 36° nitric acid was 23 marks.

The condition of the tar industry was uninterruptedly satisfactory and all products thereof, with a single exception, found ready sales. Of the raw stuffs for dyeing industries benzol and naphthaline were in specially strong demand. The former rose in the course of the year

* 1 metre centner=220.5 pounds.

about 25 per cent. in price, and the value of naphthaline increased so much that its manufacture was more lucrative than it had been for many years; also, the demand for toulene, which for years has been very much neglected, improved, and higher prices were obtained. Anthracene found good, steady sales, and, with the exception of some fluctuations at the beginning of the year, prices changed very little. Impregnating oils, and especially pitch and roof lacquer, were in active demand at rising prices.

The exception above mentioned was crystallized carbolic acid. The value of this article in former years was more than doubled or tripled by its extended use for military purposes. As this demand fell off and further orders from other governments, which were expected in England, were not given, prices fell to or below the former level. The quotation at the beginning of the year was 11½*d.* for raw wares. At the end of December it had fallen to 5¾*d.* Since large purchases for the purposes mentioned have again been made in the new year, a change for the better appears to have set in.

The increase in business expenses of the tar industry, mentioned in the report for 1889 and continued in 1890, in part became more noticeable. This is due especially to the slow forwarding of loaded private transportation wagons by the railways, whereby the tar industry was much injured.

Sales of tar colors were very active throughout the whole year 1890, but prices were unchanged, if not even lower, in spite of the already reported rise in raw materials. This unpleasant situation for the manufacturers the market condition in former years has already shown; and, if this industry has any hope of renewed success, it lies in patented specialties. With anxious expectation the tar-color industry and almost all branches of the chemical industry are watching the discussion of the proposed patent law, which is so important for their development. For aniline oil and aniline salt the demand was so unusually strong that it could not be entirely met by the manufacturers. In consequence prices rose considerably, and the outlook for this branch of fabrication is very reassuring. The unsatisfactory condition of the business in secondary products of the tar-color industry, such as naphthol, etc., which was alluded to in last year's report, became more unfavorable, in spite of the fact that the demand for these articles, as compared with the preceding year, had not only not decreased, but had actually increased. In spite of nearly all raw materials having become dearer, such as naphthaline, caustic soda, etc., an improvement in prices could not be secured on account of increased competition and overproduction.

The domestic demand for chemical mineral colors was very strong. Although competition made itself very distinctly felt, sales were larger and prices advanced 15 per cent. over those of 1889. From the nature of things in Berlin and vicinity, where wages are high and the entire cost of manufacture dear, only first-class wares can be manufactured. The consequence is that provincial factories devote themselves to cheap products (earth colors, etc.), while the Berlin and Charlottenburg factories not only supply the land with fine and dear products, but also strongly press other competitors. This applies not only to sorts used for wall and colored paper manufacture, but also to painters' colors, and especially to the fine products for book and lithograph printing. Success against competition could only be reached by partial reductions of price, which in some sorts were small, while in others they were more noticeable. To counteract the effect of reductions in prices efforts were made to simplify methods of production and thus to reduce expenses. An unfavorable influence on manufacture by such raw materials whose prices were fixed by agreement was not noticed.

The foreign trade was more difficult. Here the distinction must be observed between the influence exerted by customs tariffs and that arising from the establishment of new or the development of old competition abroad. By the former Russia is almost entirely cut off from us. Although in Russia only colors of lower quality are manufactured, yet consumers there are compelled by the enormous duty, which will soon again be raised, to use the poorer sort which is manufactured there. The exportation to Russia is therefore limited to a few articles which are not manufactured at all in Russia. Prices were much reduced; but, in spite of the reduction, the quantity exported to Russia, which in former years reached a con-

siderable height, was comparatively small. In Austria-Hungary domestic competition had made considerable advance. This was favored not only by the customs tariff, but also by railway freights. Even with reduced prices the export could hardly be kept even with that of the preceding year. At its full height exportation was maintained only to those lands which not only permitted entry free of duty, but which could be reached with cheap freights. Chief among these were Belgium and England. With satisfaction it is to be noted that the Berlin Quick Steamboat Company, which was called into existence by the Berlin Industrial Union, has contributed materially to quick and cheap transportation. The cheapness of freight rates enables Berlin manufacturers to compete successfully in Belgium and England with the home industries there. For these countries prices fell only moderately in 1890.

On the whole, the Berlin chemical mineral-color industry fully maintained its position in the trade of the world, except in a few countries, from which it is kept out by customs duties. It will continue to maintain this position so long as it remains in the track which it has until now trodden, *i. e.*, if it retains as it chief object the production of fine, first-class wares and leaves the manufacture of cheap, poor wares to other producers.

Business in tin preparations was quiet in 1890. Price fluctuations were unimportant. In the last 3 months the consumption fell off very noticeably in consequence of business stagnation in the textile industry, especially the silk industry, which has a great influence on the sale of tin products. The scarcity of orders was chiefly due to the generally unfavorable condition of trade in this branch and to the difficulties encountered in the exportation of textile products to the United States on account of the McKinley law and to South America on account of the unsettled condition of political affairs there.

Though the active demand mentioned in last year's report for chemicals for pharmaceutical, photographic, and technical purposes continued in 1890, still the profits arising from their manufacture were not increased. The requirements in regard to chemical purity of various pharmaceutical preparations have considerably increased since the publication of the third edition of the German pharmacopœia, but the increased expense necessitated in obtaining the required qualities finds little expression in increased prices. It is very desirable that, in the preparation of a new edition of the German pharmacopœia, expert manufacturers be consulted, for thereby certain requirements, which are now impossible of fulfillment, would be avoided, as, for instance, the recently required ammoniacal silver reaction in heat for glycerine. The before-mentioned unfavorable condition of many articles of this branch of the chemical industry is not at all due to overproduction.

The sale of ether and alcohol in 1890 showed no imporant changes from that of the preceding year. The rise in the price of spirits near the end of the year influenced the value of ether and alcohol, but this was felt more sharply at the beginning of the new year. By a long interruption of the demand those manufacturers were much injured who had made arrangements to produce large quantities of acetic ether, which is used in the manufacture of the new gunpowder. This article will remain weak so long as no constant, regular sales are guarantied.

The Strassfurt syndicate made no change in the price of bromine. In spite of this fact, the prices of bromine preparations fell on account of continued competition among manufacturers. Quotations were so low that very little profit was left to the manufacturer.

The Chloral Hydrate Manufacturers' Union, which had long existed, on account of the increase of factories devoted to the manufacture of this article has dissolved. As its consumption decreased on account of the increased use of other hypnotics, the price of chloral hydrate fell to 50 per cent. of what it had been for years.

Unfortunately the selling price of cyanide of potassium was not affected by the rise in price of its raw material, yellow prussiate of potash.

The glycerine market, on the whole, was stagnant in 1890. Raw material fell at the end of the year to 70 francs. Speculation in this article in 1890 resulted in considerable loss. Quotations for refined or distilled wares, owing to sharp competition, at no time during the year showed the proper relation to the value of raw material.

The uncertainty in regard to the prolongation of the union of iodine producers with which the year 1890 began lasted until May. Not until then could the English firm which conducted the business of the iodine union declare that the union had decided to maintain the former price, 9*d.* per ounce. During this long preliminary period of 4 months the business in iodine preparations was confined to covering immediate demands, and hence, notwithstanding subsequent manufacturing activity, considerable loss resulted to the manufacturers.

THE WOOLEN INDUSTRY IN THE DISTRICT OF RHEIMS.

REPORT BY CONSUL WILLIAMS, OF ROUEN.

French wool has been in moderate demand, without any change of price.

During the second quarter of this year the manufacture of wool at Elbeuf has been active. The revival of trade in carded fabrics, notably winter cloths, has favored certain spinning, dyeing, and dressing mills so that they have produced more than last year. Military cloth and that used by Government employés were in ordinary request. Black cloth has held its own, without any increased demand. Larger quantities of cheviot and cloth for ladies' wear have been turned out.

The shipments of cloth from Elbeuf during the last quarter amounted to 1,200,500 kilogrammes. The entries were 339,310 kilogrammes, an excess of 861,190 kilogrammes. The shipments for the corresponding quarter of 1890 were 800,828 kilogrammes. During the month of June, 1891, included in the foregoing figures, 512,050 kilogrammes were shipped from Elbeuf and 124,800 kilogrammes were brought in; balance, 387,250 kilogrammes. In the corresponding month of last year the balance was 346,670 kilogrammes. The export trade has been nearly the same as last year, although much restricted with the United States. This latter diminution is charged to the account of the new tariff.

Table showing the import and export trade of France in wool and its products for the first 5 months of 1891, as compared with the same periods in 1889 and 1890.

Articles.	1891.	1890.	1889.
IMPORTS.			
	Francs.	*Francs.*	*Francs.*
Wool	237,697,000	210,851,000	218,993,000
Woolen yarn	6,057,000	3,694,000	5,501,000
Woolen fabrics	24,751,000	24,643,000	22,689,000
EXPORTS.			
Wool	63,927,000	55,299,000	72,844,000
Woolen yarn	10,516,000	15,763,000	24,266,000
Woolen fabrics	140,327,000	147,850,000	151,536,000

CHAS. P. WILLIAMS,
Consul.

UNITED STATES CONSULATE,
Rouen, July 22, 1891.

METEOROLOGICAL CHANGES IN FRANCE.

REPORT BY CONSUL KNOWLES, OF BORDEAUX.

A noted French scientist and statistician has recently been directing attention to the climatic changes in this country. He states that from actual figures gathered within the past 6 years the temperature of Europe has been falling. France has been suffering for a long time from an excess of cold weather, the thermometrical readings at Paris having been 1° C. below the normal heights. Other readings show even more unfavorable results. The fall is more noticeable in the spring than during the other months. Similar phenomena are recorded in Great Britain, Belgium, Spain, Italy, Austria, and Germany, while, strange to say, the really cold countries, such as Denmark, Norway, Sweden, and Russia, have enjoyed during the last 4 years a temperature slightly above the usual.

In the days of Philippe Auguste (thirteenth century), the wines of Étampes and Beauvais, France, were the favorite beverages at court. Henry IV, a pronounced *bon vivant*, frequently expressed his fondness for the product of the Suresnes grape. To-day there is not a vineyard of importance north of Paris; and, as for the *petit vin* now made at Suresnes, it has become only the drink of the poorer classes. In the middle of the sixteenth century Macon was celebrated for its muscat wines, whereas the muscatel grape at this moment can scarcely be made to thrive there. Ancient chronicles mention the cultivation of the vine in northern Brittany, where now even apples are not plentiful. Again, it is to be remarked that trees which once flourished in the north of France are at present found only in the extreme south. A number of species, for that matter, have disappeared altogether. Languedoc no longer grows the lemon. There is not an orange left in Roussillon. The Lombardy poplar, so familiar and picturesque an object in old French line engravings, is now nowhere to be found on French soil. These are facts which serve in themselves—statistics out of the question—to illustrate changes wrought by temperature in this great fruit-producing country.

The subject is well worth following, and especially by those inhabitants of the Western States who cultivate orchard, garden, or vineyard. It would appear that to these latter each season gives promise of even better ones in the future. Nature lavishes her bounties with redoubled generosity as the years go by. California will occupy the place of the first and foremost fruit-growing district of the earth, though, sadly enough, she may attain the distinction only by the misfortunes of others. France has had her share of calamity. Hopes for the future are for the best. Statistics and ocular evidence point in an opposite direction.

HORACE G. KNOWLES,
Consul.

UNITED STATES CONSULATE,
Bordeaux, August 15, 1891.

CHARITIES IN THE NETHERLANDS.

REPORT BY MINISTER THAYER, OF THE HAGUE.

Frequent inquiries respecting the system of charities now in vogue in the Netherlands have led me recently to examine the subject somewhat in detail, and I venture to submit the results to the Department for the use of any who may be interested in work of this character. The system referred to, though very complex, is exceedingly comprehensive, and the success of its operations has commended it to the careful consideration of many who are interested in charitable undertakings elsewhere.

The law regulating both public and private charities in the Netherlands is founded on the act of 1854, modified by the law of 1870, and is in substance as follows:

CHAPTER I.—ADMINISTRATION.

Section 1.—Institutions of charity, their foundation and their regulation.

ARTICLE 1. Charitable institutions, within the meaning of the present law, are such as have a permanent aim of helping the poor, whether in asylums or otherwise.

ART. 2. The law divides the various kinds of charitable institutions into the four following classes: (1) State, provincial, and communal establishments, regulated and administered by the municipal authorities; (2) establishments supported by religious associations designed to aid the poor of those faiths, in accordance with the rules of the said association; (3) establishments maintained and administered by private persons or by nonreligious associations; (4) mixed establishments, that is to say, institutions managed by civil authorities conjointly with a religious association or private persons.

ART. 3. It shall be the duty of the communal authorities to draw up a list enumerating all the charitable institutions existing in the community, arranging them according to their proper classification under article 2. This list shall always be kept up to date.

ART. 4. The rules of the communal establishments described in article 2 (1) shall, within a time specified by royal decree, be revised by the communal councils so as to conform with the provisions of the law. If no rules exist, the communal councils shall provide them within the same period of time. New charitable institutions belonging to this class shall be created only by virtue of a resolution of the communal council, which resolution shall, at the same time, contain the rules which are to govern the new institution.

ART. 5. The rules of the institutions mentioned in article 2 (4) shall be made by the communal council and the religious or other body associated with it within a period fixed by royal decree and in conformity to the provisions of the law. The provincial states shall see that the rules contain

provisions necessary for an orderly administration of their affairs, and that there be nothing in them contrary to the laws and general welfare.

ART. 6. A copy of the resolutions of the communal council and of the rules, made in accordance with articles 4 and 5, shall be transmitted by the burgomaster or the secretary of the commune to the provincial states, who shall acknowledge its receipt within 8 days.

ART. 7. The provisions concerning the creation and the administration of the institutions designated in article 2 (2 and 3) shall be communicated by the managers to the communal authorities within 1 month after the creation of any institution, and all modifications of said provisions shall be made known in the same way within a like period.

If the establishment has other aims beside the care of the poor, the report should be confined to the rules which relate to the latter purpose only. Establishments not making a report within the time specified shall be deprived of the powers accorded by article 1691 of the civil code of the Netherlands, which provides that corporations existing by virtue of law have the same power to make contracts as individuals, unless they are limited in the exercise of this power by public regulations.

ART. 8. All hospitals or workhouses not founded by the State or the province, and comprising in part those mentioned in article 2 (1 and 4), are placed under the supervision of the communal authorities, without prejudice to the privileges granted by virtue of their establishment. The right of local inquiry to determine whether the said hospital or workhouses conform wholly to the purposes for which they were created is reserved.

ART. 9. If the aim of a charitable institution shall undergo a change, the use of its property passes to another exercising the functions which the former has ceased to fulfill. This change shall be effected as follows:

(1) For communal establishments, by the communal council, with the approval of the provincial states.

(2) For religious institutions, by the proper church authorities.

(3) For establishments founded by private persons or associations, by the founders or their heirs, and when these are dead or unknown by the managers of the institution, their acts to be subject to royal approval.

(4) In the case of mixed establishments, the communal council and the religious or private authorities associated therewith shall make the change, subject to the approval of the provincial states.

If this change is not effected within the time fixed by royal decree, a supplementary decree will be issued to meet the case, assigning the reasons therefor. This provision is also applicable to the establishments mentioned in article 2 (3), but only in case the founders and their heirs are dead or unknown.

Section 2.—Reports to be made by the managers of charitable institutions.

ART. 10. All charitable institutions must annually submit to the communal council, within a time and in a manner to be determined by the

minister of the interior, a report of the number of persons who have received aid of whatever nature, together with the sums expended and the receipts coming from subscriptions, donations, subsidies, or collections. The private and communal directors of the mixed institutions must communicate all information that the Government shall deem necessary.

ART. 11. Directors refusing to comply with the provisions of the preceding article are liable to a fine of from $10 to $30.

ART. 12. The managers of religious, mixed, and private charities shall, if requested by the communal authorities, state whether any poor person who applies to the commune for assistance could or could not be aided by their institutions. Directors not complying with the above requirements within 15 days after the request has been made shall be liable to a fine of from $4 to $10.

ART. 13. Public solicitations in aid of charities can only be made after notice of such purpose has been given to the communal authorities 3 days in advance. Such solicitations are only permitted to such institutions as conform to the requirements of article 7. Any establishment which considers itself injured by such prohibition may appeal to the King for redress. This restriction does not apply to collections in churches or among the members of a particular church.

Section 3.—Administration of communal and of mixed charitable institutions.

ART. 14. Buildings belonging to the charitable institutions mentioned in article 2 (1 and 4) must, if possible, be insured against fire for their full value. A neglect to comply with this requirement within 1 month after the establishment of any institution shall render the persons charged with the performance of this duty responsible for all losses caused by such neglect.

ART. 15. All surplus moneys belonging to the institutions referred to are required to be invested in registered Government bonds. Nevertheless, with the consent of the provincial states, they may be invested in real estate or interest-bearing securities, as follows:

(1) Loans contracted under a statute requiring the bonds issued in payment to bear the name of the possessor and containing the declaration that they can not be transferred without legal authority.

(2) Mortgages on real estate, provided that the value of the property shall be at least one-third in excess of the amount loaned.

In any case where the provincial states withhold their approval of any investment so made, an appeal may be taken to the King. Trustees who neglect to invest the surplus funds of any charity, as required by this article, shall be made responsible for the lawful interest thereon. It is the duty of the ministry to insist upon the enforcement of this provision.

ART. 16. The sanction of the provincial states is not only necessary in case of all loans made by the trustees of charity institutions, but for all conversions, transfers, or sales of property, bonds, or mortgages belonging to such institutions. All realty belonging to such institutions, when leased, must be

offered for such purpose publicly, unless the provincial states shall, in special cases, in the interest of the establishment, consent to its being let by private contract. In case the provincial states refuse their authorization, the trustees may appeal to the General Government.

ART. 17. The authority of the provincial states is further necessary for the erection of new buildings and all extraordinary outlays in the way of repairs on old buildings when the expenditure exceeds $200.

ART. 18. Every act contrary to the provisions of articles 15 and 16 which does not receive the approval of the provincial states shall be declared null and void by the court, either upon the application of the ministry or upon the demand of the persons interested. Expenses incurred in violation of the provisions of article 17 shall not be allowed in the accounts of the institution.

ART. 19. All statements of receipts and expenditures of the establishments designated in article 2 (1 and 4) must be submitted to the communal council for approval. In case this approval be refused, appeal may be made to the provincial states.

CHAPTER 2.—ASSISTANCE TO BE GIVEN TO THE POOR.

ART. 20. The work of caring for the poor is intrusted to charitable institutions, either religious or private, in accordance with the following regulations:

ART. 21. Communal establishments shall grant aid to the poor only when thoroughly convinced that the religious or private institutions are not able to furnish it, and in such cases only when it is absolutely necessary.

ART. 22. The guardians of the poor—general, communal, or mixed—or, in default of these, the commune where the indigent person lives determines, without appeal, the necessity for aid to those described in the preceding article.

ART. 23. The commune may grant aid to such persons as are mentioned in article 21 when the conditions upon which it is offered are not in violation of law or public policy.

ART. 24. The expense incurred in the conveyance to, and maintenance of, insane paupers in asylums shall be paid by the commune where the said pauper is domiciled in case it be not borne by some charitable institution, private charity, or the church. In case it be impossible to determine the exact domicile of the insane pauper, then the said expense shall be borne by the State.

The Government reserves to itself the right to regulate the manner in which all contributions for the benefit of persons mentioned in the preceding paragraph shall be made.

The indigent children of persons convicted of crime, when not able to be separated from their parents, shall be supported by the community at whose charge the prisoners are maintained.

CHAPTER 3.—RECOURSE AGAINST ASSISTED PERSONS OR AGAINST THEIR FAMILIES OR THEIR INHERITANCE.

ART. 25. The incomes of orphans, foundlings, or abandoned children received into the almshouses or other charitable institutions belong to the institutions maintaining said children to the extent necessary for their support.

ART. 26. The expenses of maintenance and burial shall be deducted from the inheritances of persons who die in charitable institutions, in accordance with the provisions of article 25, in case no previous arrangements have been made to this end.

ART. 27. The provisions of articles 25 and 26 do not extend to persons of legal age who are received into the hospitals under other arrangements.

ART. 28. Sums expended for assistance beyond allowances for services may be recovered, without interest, by the authorities at whose charge the pauper is, (1) when the latter's means permit him to make restitution; (2) from relatives bound to furnish him support by virtue of article 376 *et seq.* of the Netherlands civil code.*

ART. 29. The claims mentioned in articles 25, 26, and 27 are privileged, and take rank immediately after those mentioned in article 1195 of the civil code,† in case they be not included in the latter.

ART. 30. All privileges heretofore granted to charitable institutions or to their successors or assigns in the nature of securing compensation for aid furnished, inconsistent with the above provisions, are hereby declared null and void.

ART. 31. Actions to recover sums expended for maintenance or aid instituted by virtue of the provisions of articles 25, 26, 27, and 28 become outlawed in 5 years, the period from which the statute commences to run being the 31st of December of the year in which the said sums were expended.

CHAPTER 4.—SUBSIDIES GRANTED BY THE COMMUNES TO CHARITABLE ESTABLISHMENTS.

ART. 32. Hereafter no subsidies shall be granted from the communal treasury to charitable institutions except upon a resolution of the communal council stating the reasons therefor.

ART. 33. This resolution shall state—

(1) That absolute necessity for the subsidy is demonstrated by the statement of receipts and expenditures of the past year and by the estimates of the same for the current year, as given by the institution seeking the subvention.

* Article 376 of the civil code provides that children shall be liable for the support of indigent parents and grandparents. Article 377 of the same code provides that sons-in-law and daughters-in-law shall provide for dependent fathers-in-law and mothers-in-law, etc. Article 378 of the same code provides that the obligations contained in the provisions of the two preceding articles shall be reciprocal.

† Article 1195 of the civil code is as follows: The privileged claims resting against real and personal estates are those hereafter described, and come in the following order: (1) Legal expenses incurred in the administration of the estate, (2) funeral expenses, (3) expenses of the last illness, (4) the wages of servants and laborers for the past year and whatever is due for the current year, (5) claims for necessaries of life furnished to the debtor and his family for the last 6 months, (6) claims of teachers for the last year, and (7) claims of minors or persons under legal disabilities against guardians and executors.

(2) That the said institution has received all that it can equitably expect from those who can be asked to contribute to its expenses.

(3) That the managers of the said institution have performed their duties conscientiously.

ART. 34. These resolutions must be communicated to the provincial states within 8 days. The provincial states shall see that no subsidies are accorded without an absolute necessity therefor existing; they shall take all measures that they may deem necessary to secure a wise administration of the subsidies granted.

CHAPTER 5.—BEGGARS AND VAGABONDS.

ART. 35. The punishments administered in institutions to beggars and vagabonds shall consist of a partial deprivation of the ordinary supply of food, a diminution of wages, and solitary confinement for a period not exceeding 7 days. Repressive measures can be enforced separately or simultaneously.

ART. 36. A rule of internal government shall be adopted fixing the time and manner of punishment; also the conditions under which beggars and vagabonds shall be allowed to leave the institutions.

ART. 37. A register of all the punishments inflicted in the institution shall be kept, and a copy thereof transmitted every 3 months to the King's procurator at the court of the district to which the establishment belongs.

ART. 38. The cost of transporting to and from, as well as the maintaining in, institutions devoted to the uses of beggars and vagabonds and their children (when the latter can not be separated from their parents) shall be defrayed by the State.

ART. 39. If the persons described in article 38 possess pensions, incomes, or property of any kind, the same shall be devoted to the reimbursement of the State for its outlay in their behalf.

If an owner of property be received into an endowed institution of charity, recognized as such by the public authorities, or if he be supported by the commune where his domicile is established, the said property, if necessary, shall be converted and the proceeds turned over to the institution which supports the said person; and, should there be any excess over and above the cost of his support, the trustees of the institution shall return the same to the person cared for at the time of his discharge.

ART. 40. All differences arising in institutions classed in article 2 (1 and 4) with regard to appointments, suspensions, or dismissals of managers shall be decided by the Government after a full hearing of the subject-matter in dispute.

ART. 41. Disputes on questions of domicile mentioned in article 24 shall be decided by the Government in case the council of the provincial state shall not be able to reach an agreement.

ART. 42. Whenever the trustees are unable to agree as to the purpose of an institution; or, if it be a charitable one, as to which of the classes under article 2 it belongs; or as to the claims which lie against surety bonds or on

the contracts entered into between the communes and the charitable institutions for the mutual assistance of the poor, said questions shall be relegated to the judicial authorities for decision.

ART. 43. If the communal council refuses to include in its budget the expenses to which it is made liable under the law, the provision of article 212 of the communal law shall be applicable, *i. e.*, the provincial states shall insert the said expenses in the communal budget. In this case, should the local revenues not suffice and should the council refuse to provide other revenues, the other expenses of the commune shall be reduced by the provincial states in such a manner as to equalize the local receipts and expenditures.

ART. 44. Article 874 of the civil procedure code affords charitable institutions, almshouses, and hospitals, as well as vestry boards of churches of all sects, the privilege of admission to the Pro Deo, in the same manner and with the same advantages that pertain to paupers, without being obliged to produce a certificate of indigence.

CHARITABLE INSTITUTIONS.

As relief of the poor is declared by the Netherlands constitution to be a constant concern of the Government, so charity has come to be a leading characteristic of the Dutch people. It will be noted that the law places all eleemosynary institutions under the immediate supervision of the Government, and divides them into the following classes, viz, civil, religious, private or nonreligious, and mixed. Each institution is required to submit a report of its doings to the Government at stated periods.

The work of providing for the poor is largely in the hands of religious or private societies, usually termed nongovernmental associations. These bodies exercise the privilege of granting or refusing aid when asked for, but the civil authorities render assistance in all cases of absolute need when the same can not be obtained elsewhere. Again, should any charitable institution, religious or private, in its annual report exhibit a want of means to carry on its legitimate undertakings and show that all private appeals to this end have been unavailing, it then becomes the duty of the authorities of the commune in which the institution is located to make good the deficit.

It will be noted, also, that the law makes the domicile of aid the locality where the need has been found to exist, whether it be the legal domicile or otherwise. Begging or vagrancy is prohibited by the penal code, and in all places provided with institutions of charity it is a punishable offense; but the law is more or less rigorously enforced according to the instructions of the chiefs of police and burgomasters. In the larger towns the offender is usually conducted out of the community, while in other places the punishment is seclusion in one of the State work colonies, the minimum penalty being 12 days and the maximum 3 years.

Of the public establishments devoted to charity two are worthy of special note, the General Welfare Society (Maatschappy van het Nut van't Algemeen) and the Society of Benevolence (Maatschappy van Weldadigheden).

The former was founded by Jan Nieuwenhuis in 1784, its purpose being to provide free education for children of the poor. It has at present 325 distinct centers of action and a membership of 16,300 persons. It aims to improve the condition of the lower classes by maintaining schools for their benefit, in which they are not only instructed in arts and sciences, but also educated to the habit of economy, an encouragement to which is afforded through the means of savings institutions which allow a liberal interest to all depositors of the working class.

The Maatschappy van Weldadigheden, or Society of Benevolence, was founded by the Dutch philanthropist General van den Bosch, his idea being that the best antidote for poverty is the furnishing of agricultural training and employment to able-bodied destitute and deserving persons. The fact that the savage man, without instruction, implements, habitation, or capital, was able to make the earth yield him the means of subsistence led General van den Bosch to conclude that the indigent classes among civilized men, provided with all these advantages, ought to be better able to maintain themselves by tilling the soil. Through his instrumentality, in the year 1820, there were nine farms set apart for the use of the poorer classes, two of which were for the exclusive use of paupers. The experiment proving in some sense a failure, the latter were, in 1854, turned over to the Government, and thereafter became places of discipline or punishment. Very recent reports show that 1,830 persons are now furnished with employment and subsistence on the several farms.

I can not illustrate in any better way the success of the various charitable organizations named in article 2 of the law referred to than by the annexed tables of statistics, containing, first, a minute report of each institution; second, the number of persons assisted annually; third, the moneys devoted to charitable purposes, and how the same were procured; fourth, the total expenditures of the various charities; and, fifth, the number of persons placed in the way of obtaining an honest livelihood. I add a detailed report of the peoples' savings banks from the year 1840 to 1888, inclusive, showing to what extent the poor of the working classes have availed themselves of the use of these institutions and the benefits derived therefrom.

Table showing the number of the various kinds of charitable institutions in the Netherlands.

Year.	Domiciliary aid.	Aiding poor too proud to beg.	Distributing food in winter.	Aiding pauper mothers in child-bed.	Houses of charity.	Hospitals.	Workhouses.	Other institutions furnishing employment.	Total.
Municipal and mixed.									
1854	1,212	2	28	3	187	35	17	13	1,497
1876	1,186	1	17	1	185	38	13	7	1,448
1877	1,184	1	17	1	186	38	14	7	1,458
1878	1,184	1	17	1	185	37	13	7	1,445
1879	1,169	1	17	1	182	37	13	7	1,427
1880	1,166	1	17	1	182	37	13	7	1,424
1881	1,152	1	17	1	181	37	13	7	1,409
1882	1,150	1	17	1	182	38	13	7	1,409
1883	1,146	1	16	1	182	37	13	7	1,403
1884	1,141	1	16	1	182	36	13	7	1,397
1885	1,130	2	16	1	181	36	13	7	1,386
1886	1,130	2	16	1	181	36	13	7	1,386
1888	1,131	2	16	1	182	35	13	6	1,386
Religious.									
1854	2,373	92	5	1	277	14	8	6	2,776
1876	2,748	133	6	3	344	23	5	6	3,268
1877	2,760	135	6	3	345	24	5	6	3,284
1878	2,763	135	7	3	346	24	5	6	3,289
1879	2,769	136	7	3	351	24	3	6	3,299
1880	2,783	135	7	3	350	24	3	6	3,311
1881	2,785	134	7	3	351	24	3	6	3,313
1882	2,791	135	7	3	353	24	3	6	3,322
1883	2,798	135	6	3	353	24	3	5	3,327
1884	2,798	136	6	3	354	24	3	5	3,329
1885	2,800	138	6	4	356	24	3	5	3,336
1886	2,804	138	6	5	357	25	2	5	3,342
1888	2,872	145	6	5	349	27	2	4	3,410
Private.									
1854	92	51	122	45	223	8	16	59	616
1876	95	72	94	54	225	16	15	40	611
1877	92	74	91	54	225	16	15	38	605
1878	94	75	91	53	227	17	15	38	610
1879	93	76	90	53	231	18	16	40	617
1880	95	77	90	53	232	18	15	41	621
1881	99	78	86	51	232	20	14	40	620
1882	100	79	87	51	231	19	15	40	622
1883	103	84	87	51	232	20	14	40	631
1884	102	86	87	51	233	21	14	39	633
1885	103	90	87	50	233	21	14	40	638
1886	104	91	87	50	235	21	14	40	642
1888	168	96	90	49	214	20	14	38	689
Total.									
1854	3,677	145	155	49	687	67	37	78	4,889
1876	4,029	206	117	58	754	77	33	53	5,327
1877	4,036	210	114	58	756	78	34	51	5,337
1878	4,041	211	115	57	758	78	33	51	5,344
1879	4,031	213	114	57	764	79	32	53	5,343
1880	4,044	213	114	57	764	79	31	54	5,356
1881	4,036	213	110	55	764	81	30	53	5,342
1882	4,041	215	111	55	766	81	31	53	5,353
1883	4,047	220	109	55	767	81	30	52	5,361
1884	4,041	223	109	55	769	81	30	51	5,359
1885	4,033	230	109	55	770	81	30	52	5,360
1886	4,038	231	109	56	773	82	29	52	5,370
1888	4,171	243	112	55	745	82	29	48	5,485

Table showing the number of poor people assisted from 1872 to 1888.

Year.	During entire year.			Temporarily.		
	Married.	Single.	Total.	Married.	Single.	Total.
1888:						
Aid from municipality direct	18,015	14,185	32,200	34,667	15,635	50,302
Aid from institutions of domiciliary aid	35,353	22,096	57,449	42,300	12,585	54,885
Aid from societies to poor ashamed to beg	1,409	568	1,977	4,965	870	5,835
Total	54,777	36,849	91,626	81,922	29,090	111,022
1886	56,761	36,501	93,262	91,581	31,606	123,187
1885	54,194	35,931	90,125	88,660	32,735	121,395
1884	55,202	37,449	92,651	84,438	32,708	117,146
1883	52,378	38,322	90,700	88,614	35,202	123,816
1882	53,152	37,717	90,869	88,296	34,105	122,401
1881	51,614	37,587	88,336	89,800	34,138	128,307
1880	50,788	37,566	88,354	92,081	35,577	128,178
1879	51,425	37,492	88,917	88,750	34,793	123,543
1878	50,568	37,400	87,968	82,647	32,507	115,154
1877	51,067	36,985	88,052	80,713	31,853	112,566
1876	50,466	37,867	88,333	82,758	32,099	114,857
1875	50,327	38,821	89,148	78,759	29,596	108,355
1874	52,105	39,086	91,191	76,063	31,431	107,494
1873	52,417	39,936	92,353	77,769	31,725	109,494
1872	53,194	40,370	93,564	82,494	31,930	114,424

Year.	Total.		
	Married.	Single.	Total.
1888:			
Aid from municipality direct	52,682	29,783	82,465
Aid from institutions of domiciliary aid	77,653	34,681	112,334
Aid from societies to poor ashamed to beg	6,374	1,438	7,812
Total	136,709	65,902	202,611
1886	148,342	68,107	216,449
1885	142,854	68,666	211,520
1884	139,640	70,157	209,797
1883	140,992	73,524	214,516
1882	141,448	71,822	213,270
1881	141,414	71,825	216,643
1880	143,389	73,143	216,532
1879	140,175	72,285	212,460
1878	133,215	69,907	203,122
1877	131,780	68,838	200,618
1876	133,224	69,966	203,190
1875	129,086	68,417	197,503
1874	128,168	70,517	198,685
1873	130,186	71,661	201,847
1872	135,688	72,300	207,988

Table showing the amount of voluntary charitable contributions and subsidies from 1872 to 1888.

Year.	Contributions from domiciliary collections.	Subsidies given by—		Total.
		Other institutions.	Provinces and communes.	
1888:	*Florins.*	*Florins.*	*Florins.*	*Florins.*
Municipal and mixed institutions	129,640	33,008	1,454,928	1,617,576
Religious institutions	2,004,393	89,523	121,733	2,215,649
Private institutions	58,714	140	2,750	61,604
Total	2,192,747	122,671	1,579,411	3,894,829
1886	3,746,044	420,756	2,253,348	6,419,968
1885	3,669,799	435,732	2,242,656	6,348,178
1884	3,658,968	500,835	2,380,988	6,540,791
1883	3,860,106	502,620	2,335,269	6,697,995
1882	3,598,102	444,087	2,147,019	6,189,208
1881	3,585,203	447,337	2,106,750	6,139,290
1880	3,430,684	476,405	2,069,521	5,976,530
1879	3,465,772	437,821	2,014,609	5,918,202
1878	3,371,722	441,692	2,021,502	5,834,916
1877	3,258,310	434,011	1,977,157	5,689,478
1876	3,322,542	402,928	2,012,861	5,738,331
1875	3,215,231	464,252	2,042,181	5,721,664
1874	3,150,063	417,737	2,028,161	5,595,961
1873	3,278,013	419,936	2,064,796	5,762,745
1872	3,220,973	396,809	2,147,456	5,765,238
1871	3,222,222	398,792	2,230,367	5,851,381

Table showing the total expenditures for charity made by municipalities and all other institutions (except those furnishing work) from 1854 to 1888.

Year.	Amount.	Year.	Amount.
	Florins.		*Florins.*
1854	9,155,544	1871	10,503,092
1855	9,088,569	1872	10,842,314
1856	8,800,132	1873	10,574,511
1857	8,517,893	1874	10,638,831
1858	8,480,745	1875	10,637,211
1859	8,563,357	1876	10,957,620
1860	8,795,721	1877	11,012,424
1861	9,022,527	1878	11,236,678
1862	9,084,548	1879	11,145,835
1863	8,907,209	1880	11,457,864
1864	8,970,456	1881	11,453,945
1865	8,941,478	1882	11,573,980
1866	9,448,646	1883	11,799,308
1867	10,647,419	1884	11,817,522
1868	10,877,232	1885	11,928,066
1869	10,812,303	1886	12,197,773
1870	10,696,558	1888	14,667,219

Table showing the number of persons aided by furnishing them work from 1870 to 1888.

Year.	In special work yards.	Otherwise.	Total.
1870	4,108	4,099	8,207
1871	3,586	4,355	7,941
1872	3,094	4,342	7,436
1873	2,770	4,134	6,904
1874	2,586	3,739	6,325
1875	1,852	3,412	5,264
1876	1,721	2,981	4,702
1877	1,476	2,926	4,402
1878	1,456	2,896	4,352
1879	1,561	3,172	4,733
1880	1,687	3,553	5,240
1881	1,486	3,205	4,691
1882	1,136	2,799	3,935
1883	1,159	2,512	3,671
1884	1,103	2,646	3,749
1885	1,247	3,128	4,375
1886	1,336	3,206	4,542
1888	1,479	3,327	4,806

SAVINGS BANKS.

Table showing the number, deposits, etc., of savings banks in the Netherlands from 1840 to 1888.

Year.	Total number.	Deposits (interest not included).	Payments, including interest paid.	Receipts.	Expenses of management.	Reserve fund.
		Florins.	*Florins.*	*Florins.*	*Florins.*	*Florins.*
1840	46	622,000	610,000	54,000	6,000	68,000
1845	57	978,000	833,000	81,000	8,000	193,000
1850	82	1,313,000	1,065,000	92,000	10,000	188,000
1855	101	2,023,000	1,637,000	148,000	12,000	377,000
1860	136	2,311,000	2,004,000	221,000	18,000	676,000
1865	158	2,846,000	3,042,000	303,000	22,000	1,384,000
1870	171	3,987,000	4,643,000	566,000	51,000	1,745,000
1871	189	4,866,000	3,801,000	544,000	46,000	2,023,000
1872	196	5,572,000	4,465,000	418,000	46,000	2,180,000
1873	209	6,257,000	4,998,000	471,000	57,000	2,304,000
1874	219	7,126,000	5,318,000	518,000	63,000	2,751,000
1875	223	8,792,000	5,787,000	647,000	72,000	3,032,000
1876	259	9,971,000	7,310,000	772,000	85,000	2,995,000
1877	266	10,790,000	8,238,000	886,000	98,000	3,180,000
1878	269	10,890,000	9,335,000	1,004,000	107,000	3,536,000
1879	274	10,782,000	11,167,000	1,068,000	124,000	3,841,000
1880	273	12,032,000	10,087,000	1,194,000	122,000	4,228,000
1881:						
Private savings banks	289	12,565,000	11,156,000	1,818,000	134,000	4,713,000
Postal savings banks	1	1,127,000	277,000	13,000	58,000	.....
1882:						
Private savings banks	283	12,692,000	11,668,000	1,974,000	167,000	5,016,000
Postal savings banks	1	2,158,000	1,933,000	57,000	55,000	.....
1883:						
Private savings banks	278	12,896,000	11,761,000	2,027,000	159,000	5,400,000
Postal savings banks	1	2,884,000	1,752,000	104,000	62,000	.....
1884:						
Private savings banks	276	13,562,000	12,124,000	2,060,000	165,000	5,853,000
Postal savings banks	1	3,857,000	2,323,000	148,000	74,000	.....

Table showing the number, deposits, etc., of savings banks, etc.—Continued.

Year.	Total number.	Deposits (interest not included).	Payments, including interest paid.	Receipts.	Expenses of management.	Reserve fund.
		Florins.	*Florins.*	*Florins.*	*Florins.*	*Florins.*
1885:						
Private savings banks	276	13,845,000	13,187,000	2,127,000	165,000	6,244,000
Postal savings banks	1	4,921,000	3,342,000	199,000	82,000	.....
1886 (postal savings banks)	1	6,616,000	4,310,000	.....	.....	.....
1887 (postal savings banks)	1	7,643,000	5,609,000	.....	.....	.....
1888 (postal savings banks)	1	9,283,000	6,773,000	.....	.....	.....

Year.	Balance due to depositors at end of year.	Number of pass books at end of year.	Averages at end of year.		
			Balance due per inhabitant.	Number of pass books per inhabitant.	Value of pass books.
	Florins.		*Florins.*		*Florins.*
1840	1,192,000	19,231	0.41	7	62
1845	1,880,000	24,200	.62	8	78
1850	3,811,000	30,396	1.24	11	125
1855	3,997,000	42,081	1.23	13	95
1860	5,545,000	54,374	1.66	16	102
1865	7,973,000	74,151	2.26	21	107
1870	11,105,000	89,704	3.07	24	124
1871	13,207,000	97,940	3.63	27	135
1872	14,755,000	108,502	4.02	30	136
1873	16,617,000	118,656	4.47	32	140
1874	18,908,000	132,061	5.02	35	143
1875	23,105,000	148,922	6.06	39	155
1876	26,723,000	174,381	6.91	45	153
1877	30,379,000	190,661	7.74	49	159
1878	32,782,000	202,359	8.23	51	162
1879	33,303,000	208,487	8.25	52	160
1880	36,671,000	224,069	9.03	55	164
1881:					
Private savings banks	39,504,000	234,552	9.60	57	168
Postal savings banks	859,000	22,831	.21	6	38
1882:					
Private savings banks	41,760,000	243,044	9.65	60	172
Postal savings banks	2,019,000	46,242	.48½	11	44
1883:					
Private savings banks	44,181,000	258,300	10.45½	61	171
Postal savings banks	3,218,000	67,922	.76	16	47
1884:					
Private savings banks	47,023,000	264,094	10.99	62	178
Postal savings banks	4,651,000	90,798	1.09	21	51
1885:					
Private savings banks	49,233,000	270,380	11.36	62	182
Postal savings banks	6,368,000	112,308	1.47	26	57
1886 (postal savings banks)	8,865,000	139,989	.....	.....	.....
1887 (postal savings banks)	11,152,000	169,027	.....	.....	.....
1888 (postal savings banks)	13,980,000	201,763	.....	.....	.....

SAMUEL R. THAYER,
Minister.

UNITED STATES LEGATION,
The Hague, August 19, 1891.

COMMERCE AND INDUSTRIES OF NORWAY.

REPORT BY CONSUL GADE, OF CHRISTIANIA.

IMPORTS AND EXPORTS.

The foreign commerce of Norway in 1890 was estimated at 3,898,000,000 kilogrammes, 1,730,000,000 kilogrammes of which were imports and 2,168,000,000 kilogrammes exports. The total value of the foreign commerce was estimated at 339,800,000 kroner, the imports being valued at 208,700,000 kroner and the exports at 131,100,000 kroner. Of the latter, foreign products in transit are represented with 6,700,000 kroner. The following table shows the quantities and values for the last decade:

Year.	Quantity.		
	Imports.	Exports.	Total.
	Kilogrammes.	*Kilogrammes.*	*Kilogrammes.*
1881	1,167,600,000	1,583,200,000	2,750,800,000
1882	1,224,400,000	1,678,000,000	2,902,400,000
1883	1,303,300,000	1,695,900,000	2,999,200,000
1884	1,327,100,000	2,102,900,000	3,430,000,000
1885	1,422,600,000	1,648,400,000	3,071,000,000
1886	1,363,600,000	1,694,500,000	3,058,100,000
1887	1,376,500,000	1,778,300,000	3,154,800,000
1888	1,620,200,000	1,859,600,000	3,479,800,000
1889	1,822,200,000	2,179,900,000	4,002,100,000
1890	1,730,600,000	2,167,700,000	3,898,300,000

Year.	Value.		
	Imports.	Exports.	Total.
	Kroner.	*Kroner.*	*Kroner.*
1881	165,000,000	120,900,000	285,900,000
1882	160,500,000	122,900,000	283,400,000
1883	161,300,000	116,100,000	277,400,000
1884	158,800,000	112,200,000	271,000,000
1885	145,600,000	101,900,000	247,500,000
1886	135,200,000	102,800,000	238,000,000
1887	133,700,000	106,600,000	240,300,000
1888	158,400,000	122,400,000	280,800,000
1889	191,600,000	132,700,000	324,300,000
1890	208,700,000	131,100,000	339,800,000

From these figures it will be seen that the year 1890 was not equal to the previous one as to the quantity, but stands above all other preceding years. The value of the imports increased considerably, while that of the exports fell off slightly.

The balance of commerce, which in Norway depends not only on the value of the merchandise exchanged between the country itself and foreign countries, but on the result of the important shipping, in 1890 was not so

favorable as in the preceding years. The imports exceeded the exports by about 77,600,000 kroner, against an average of 39,600,000 kroner during the period of 1885–'89, a sum which probably was not covered in 1890 by the net profits of the shipping trade.

The principal articles of import into Norway were as follows:

Cereals.—The imports of cereals rank foremost among all the imports into Norway. The following table shows the importation during the last 5 years.

Year.	Quantity.	Value.
	Hectoliters.	*Kroner.*
1886	3,471,000	26,450,300
1887	3,471,000	24,499,200
1888	4,599,000	30,760,800
1889	4,362,000	33,535,800
1890	3,943,000	33,183,700

The period of 1876–'80 showed an annual average of importation of grain of 3,343,000 hectolitres, valued at 36,892,000 kroner, and the period of 1881–'85 3,439,000 hectolitres, valued at 34,545,000 kroner, while the period of 1886–'90 showed an importation of 3,969,000 hectolitres, valued at 29,686,000 kroner. Rye is the most important grain imported into this country.

Dry goods.—Next in importance to cereals stand dry goods or manufactured goods, the importation of which was, during the last 5 years, as follows:

Year.	Quantity.	Value.
	Kilos.	*Kroner.*
1886	5,869,000	22,058,300
1887	5,612,000	20,501,900
1888	7,120,000	23,958,400
1889	8,831,000	28,770,500
1890	9,180,000	30,228,100

The great increase of quantity which first appeared in 1888 continued on a larger scale in 1889 and 1890. The average value per kilogramme for all kinds of dry goods fell from 5.50 kroner in 1874 and 4.94 kroner in 1880 to 3.26 kroner in 1889, but rose again in 1890 to 3.29 kroner.

Groceries.—Groceries rank third in importance. Their importation during the last 5 years was as follows:

Year.	Quantity.	Value.
	Kilos.	*Kroner.*
1886	30,589,000	16,437,500
1887	25,063,000	14,994,300
1888	32,449,000	18,925,400
1889	33,369,000	21,448,600
1890	35,258,000	23,217,900

The importation of groceries has increased much in quantity, as well as in value, during the past 3 years. The importation of coffee in 1890 amounted to 8,094,000 kilogrammes, against 7,714,000 kilogrammes in 1889. The total quantity of sugar received in 1890 was 14,951,000 kilogrammes, against 13,606,000 kilogrammes in the previous year. In 1890 6,918,000 kilogrammes of sirup were received, against 6,508,000 kilogrammes in the preceding year. The importation of tobacco leaves amounted to 1,722,000 kilogrammes in 1890, against 1,844,000 kilogrammes in 1889, showing a decrease of 122,000 kilogrammes.

The average consumption of coffee, sugar, sirup, and tobacco per capita during the last 3 years was as follows:

Year.	Coffee.	Sugar.	Sirup.	Tobacco.
	Kilos.	*Kilos.*	*Kilos.*	*Kilos.*
1888	3.56	5.93	2.95	0.79
1889	3.48	6.31	3.21	.78
1890	3.63	6.99	4.11	.80

Provisions.—Next to the foregoing comes this class of imports. The value of provisions imported in 1890 amounted to 13,800,000 kroner.

The import of butter was as follows:

Year.	Quantity.	Value.
	Kilos.	*Kroner.*
1886	3,275,000	4,094,100
1887	3,239,000	4,210,500
1888	3,014,000	3,874,400
1889	2,802,000	3,691,300
1890	2,849,000	3,789,500

In 1890 398,000 kilogrammes of margarin were imported. In this connection it must be noted that large lots of Norwegian margarin, as well as of ordinary butter, have, since 1878, been exported. The exportation in 1889 amounted to 1,610,000 kilogrammes, valued at 1,816,700 kroner, and in 1890 to 1,545,000 kilogrammes, valued at 1,714,300 kroner, of which 258,000 kilogrammes and 211,000 kilogrammes, respectively, were ordinary butter.

The import of pork and meat was as follows:

Year.	Quantity.	Value.
	Kilos.	*Kroner.*
1886	7,580,000	4,109,800
1887	8,138,000	4,703,700
1888	8,209,000	5,015,400
1889	10,734,000	5,965,500
1890	15,910,000	7,725,300

The imports of pork and meat in 1890, compared with the previous year, show the considerable increase of 5,176,000 kilogrammes in quantity and 1,759,800 kroner in value. For some years past a part of these imports were not consumed in this country, but were transshipped to Sweden.

Hardware.—The importation of hardware during 1890 amounted to 16,028,100 kroner, of which 8,091,100 kroner represent raw and half-manufactured metals and 7,937,000 kroner manufactured metals. The former include pig-iron, bar iron, and sheet iron, amounting to 5,539,800 kroner.

Brandy and spirits.—The following table shows a comparison between the imports and exports of brandy and spirits:

Year.	Imports.		Exports.		Excess of imports of 100 per cent. strength over exports.	Excess of exports of 100 per cent. strength over imports.
	Total quantity.	Quantity calculated at 100 per cent. strength.	Total quantity.	Quantity calculated at 100 per cent. strength.		
	Litres.	*Litres.*	*Litres.*	*Litres.*	*Litres.*	*Litres.*
1886	727,000	425,000	300,000	245,000	180,000	.....
1887	708,000	409,000	733,000	666,000	.....	257,000
1888	1,004,000	650,000	149,000	108,000	542,000	.....
1889	642,000	371,000	122,000	83,000	288,000	.....
1890	761,000	437,000	536,000	469,000	.....	32,000

The home production in 1890 was 3,110,000 litres, calculated at 100 per cent. strength, against 2,881,000 litres in the previous year. The domestic consumption of brandy during the last year was estimated at about 3,103,000 litres, calculated at 100 per cent. strength, or 1.56 litres per capita, which is about the same as the average of the preceding year.

Petroleum.—The imports of petroleum and paraffin oil amounted in 1890 to 14,068,000 kilogrammes, valued at 1,800,000 kroner. The duty collected amounted to about 1,400,000 kroner. The domestic consumption was as follows:

Year.	Quantity.	Year.	Quantity.
	Kilos.		*Kilos.*
1876	5,160,000	1888	12,042,000
1881	8,087,000	1889	13,467,000
1886	10,603,000	1890	13,150,000

Coal.—The importation of coal in 1890 amounted to 9,585,000 hectolitres, valued at 11,501,900 kroner, which is nearly 750,000 kroner less than the previous year.

Foreign vessels.—The purchase of foreign vessels has been much larger than in any previous year, which will appear from the following table showing the purchases for the last 9 years:

Year.	Steamers.			Sailing vessels.		
	Number.	Tonnage.	Value.	Number.	Tonnage.	Value.
			Kroner.			*Kroner.*
1882	33	14,963	6,279,000	79	43,657	2,808,000
1883	23	8,701	3,344,000	113	61,664	3,767,000
1884	19	5,592	2,078,000	96	54,718	3,666,000
1885	7	2,834	953,000	76	46,844	2,331,000
1886	4	937	328,000	49	26,470	1,105,000
1887	14	11,772	1,816,000	91	56,073	1,948,000
1888	25	15,564	3,446,000	136	88,768	3,570,000
1889	38	25,813	6,919,000	171	102,147	7,762,000
1890	42	26,525	9,604,000	204	114,823	9,284,000

Customs receipts.—The customs receipts from import duties on the principal articles during the years 1889 and 1890 were as follows:

Articles.	1889.	1890.
	Kroner.	*Kroner.*
Cereals	1,455,000	1,562,000
Coffee	2,766,000	2,457,000
Tea	173,000	146,000
Sugar of all kinds	5,062,000	5,525,000
Sirup	255,000	186,000
Tobacco	2,920,000	2,996,000
Other groceries	495,000	503,000
Brandy and spirits	624,000	748,000
Wine	255,000	293,000
Dry goods	2,367,000	2,461,000
Petroleum	1,347,000	1,315,000
Salt	403,000	331,000

EXPORTS FROM NORWAY.

The exports from Norway for the years 1886–'90 may be classified as follows:

Classes.	1886.	1887.	1888.	1889.	1890.
Products of forestry and wood industry	*Kroner.* 37,050,000	*Kroner.* 37,230,000	*Kroner.* 43,670,000	*Kroner.* 50,280,000	*Kroner.* 44,170,000
Fishery products	36,960,000	38,930,000	44,660,000	44,140,000	46,920,000
Other Norwegian articles	24,910,000	25,690,000	28,300,000	31,490,000	33,350,000
Reëxported foreign goods	3,920,000	4,780,000	5,730,000	6,760,000	6,660,000
Total	102,840,000	106,630,000	122,360,000	132,670,000	131,100,000

The principal articles of export were timber and fish. The percentage of the different classes was as follows:

Classes.	1886.	1887.	1888.	1889.	1890.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
Timber and fishery products	72	71.5	72.2	71.1	69.5
Other products	24.2	24	23.1	23.8	25.4
Reëxported foreign goods	3.8	4.5	4.7	5.1	5.2
Total	100	100	100	100	100

Timber.—Of the exports of forestry, 44,172,000 kroner and 30,983,000 kroner represent timber. The total exports in 1890 amounted to 1,864,530 cubic metres, against 2,021,541 cubic metres in the preceding year. The quantity exported in 1890 was smaller than in 1889, but nearly the same as in 1888. Prices fell off on an average about 10 per cent. from those obtained in the year before. The exports in 1889 and 1890 were as follows:

Description.	1889.	1890.
Timber:	*Cubic metres.*	*Cubic metres.*
Planed	589,883	523,785
Sawed	515,806	470,114
Hew	82,785	89,598
Round	618,601	592,480
Staves	109,352	92,602
Firewood	105,114	95,951
Total	2,021,541	1,864,530

Wood pulp.—During the year 1890, 188,947 tons of wood pulp were exported to foreign countries, against 178,140 tons in 1889, showing an increase of 10,807 tons. The value in 1890 amounted to 10,466,000 kroner and in 1889 to 10,739,000 kroner.

Fishery products.—The exportation of cured fish in 1890 amounted to 55,577,000 kilogrammes, valued at 17,785,000 kroner, against 47,479,000 kilogrammes, valued at 16,618,000 kroner, in the previous year.

The exports of dried fish in 1890 were 18,566,000 kilogrammes, valued at 6,703,000 kroner, against 18,347,000 kilogrammes, valued at 6,095,000 kroner, in 1889.

In 1890, 87,700 hectolitres of roe, valued at 1,052,000 kroner, were exported, against 52,000 hectolitres, valued at 802,000 kroner, in 1889.

The exportation of cod-liver oil in 1890 amounted to 237,000 hectolitres, valued at 6,812,000 kroner, against 207,000 hectolitres, valued at 5,727,000 kroner, in the preceding year. The demand for this article was very small in 1890. While steam-refined medicinal cod-liver oil brought, on an average, 180 kroner per hectolitre in 1883, the price declined to 53 kroner in 1886 and 36.50 kroner last year; other medicinal cod-liver oils also fell off from 60 kroner to 32 and 29 kroner, respectively.

During 1890, 829,000 hectolitres of salted herrings were exported, valued at 10,314,000 kroner, against 1,055,000 hectolitres, valued at 10,865,000 *kroner, in 1889.* This shows a decrease of 226,000 hectolitres in quantity

and 551,000 kroner in value. The value of fresh herrings exported in 1890 amounted to 404,000 kroner, and smoked herrings to 395,000 kroner.

Salmon were exported to the value of 1,138,000 kroner in 1890, against 1,004,000 kroner in 1889.

The total value of the exports of fresh mackerel in 1890 was 209,000 kroner, against 131,000 kroner in 1889.

The value of the exports of anchovies was 321,000 kroner in 1890, against 532,000 kroner in 1889.

The value of the exportation of lobsters during 1890 was 429,000 kroner, against 456,000 kroner in the previous year.

The value of the exports of fish guano amounted to 1,079,000 kroner in 1890, against 833,000 kroner in the previous year.

Table showing the imports and exports of Norway by countries during 1889 and 1890.

Countries.	Imports.		Exports.	
	1889.	1890.	1889.	1890.
	Kroner.	*Kroner.*	*Kroner.*	*Kroner.*
Great Britain	59,985,900	66,128,300	43,600,900	42,250,000
Germany	48,048,200	54,985,000	17,047,700	18,227,000
Sweden	21,763,000	23,124,700	20,648,300	19,631,300
Russia and Finland	20,188,700	20,726,200	3,682,900	3,095,300
Denmark	9,212,400	9,377,800	4,759,800	5,305,800
Netherlands	7,475,700	8,054,900	6,349,500	6,223,100
Belgium	6,162,800	6,519,900	6,020,400	5,328,700
France	4,705,100	5,833,200	8,004,000	7,087,500
Spain	.....	.....	11,773,200	11,974,100
Italy and Austria	.....	.....	3,701,500	4,459,500
Other countries	8,077,700	9,611,400	6,128,700	5,845,400

Table showing the percentage of the imports from, and exports to, each of the principal countries in 1889 and 1890.

Countries.	Imports.		Exports.	
	1889.	1890.	1889.	1890.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*
Great Britain	31.3	31.7	32.9	32.2
Germany	25.1	26.4	12.8	13.9
Sweden	11.4	11.1	15.6	15
Russia and Finland	10.5	9.9	2.8	2.4
Denmark	4.8	4.5	3.6	4
Netherlands	3.9	3.9	4.8	4.7
Belgium	3.2	3.1	4.5	4.1
France	2.5	2.8	6	5.4
Spain	.....	.....	8.9	9.1
Italy and Austria	.....	.....	2.8	3.4
Other countries	4.2	4.6	4.6	4.5

DIRECT TRADE BETWEEN NORWAY AND THE UNITED STATES.

The direct trade between Norway and the United States during 1890 was as follows: Imports from the United States, 9,202,800 kroner; exports to the United States, 2,094,200 kroner.

The official statistics of Norway give only the direct trade between foreign countries, and consequently no inconsiderable part of the commerce between Norway and the United States has been put down in the tables under Great Britain and Germany, from which countries large quantities of American goods went in transit to Norway.

From the invoice book of this office I find that the value of the declared exports, including charges, from this consular district in 1890 amounted to 3,070,000 kroner, which sum is about 1,000,000 kroner more than the direct exports from the whole of Norway. As a large exportation of fishery products, besides other articles, also took place from the consular district of Bergen via England, I would estimate the aggregate exports from Norway to the United States at about 5,000,000 kroner ($1,340,000).

MERCHANT MARINE.

The merchant fleet of Norway consisted, at the close of the year 1890, of 7,384 vessels, of an aggregate tonnage of 1,682,016 tons, of which 6,721, of 1,483,230 tons, were sailing vessels and 663, of 198,786 tons, were steamers.

The following table will show the net increase in the merchant fleet during the year 1890.

Description.	Sailing vessels.		Steamers.	
	No.	Tons.	No.	Tons.
Bought in foreign countries	100	67,874	35	21,502
Built in Norway	27	10,834	41	12,096
Total	127	78,708	76	33,598
Lost	96	37,034	4	2,064
Sold in foreign countries	3	1,761	1	829
Total	99	38,795	5	2,893
Net increase	28	39,913	71	30,705

NAVIGATION.

The total number of vessels of all nationalties entered and cleared in Norway during 1890 was 23,079, with an aggregate tonnage of 5,350,492 tons, as follows:

Table showing the number and tonnage of the steamers and sailing vessels entered and cleared in Norway during 1890.

ENTERED.

Flag.	Steamers.		Sailing vessels.		Total.	
	No.	Tons.	No.	Tons.	No.	Tons.
Norwegian	2,160	748,050	4,503	969,614	6,663	1,717,664
Foreign	1,196	711,109	2,785	219,845	3,981	930.954
Total	3,356	1,459,159	7,288	1,189,459	10,644	2,648,618

Table showing the number and tonnage of the steamers and sailing vessels, etc.—Continued.

CLEARED.

Flag.	Steamers.		Sailing vessels.		Total.	
	No.	Tons.	No.	Tons.	No.	Tons.
Norwegian	2,166	751,518	4,572	999,215	6,738	1,750,733
Foreign	1,201	714,078	4,496	237,063	5,697	951,141
Total	3,367	1,465,596	9,068	1,236,278	12,435	2,701,874

SAVINGS BANKS.

At the close of the year 1890 Norway had 350 savings banks, of which 67 were in the cities and 283 in the rural districts.

The total number of depositors having open accounts with the banks on December 31, 1890, was 470,799, 269,371 of whom were in the cities and 201,428 in the rural districts. Compared with the population of the Kingdom, this shows an average number of 236 depositors to each 1,000 inhabitants, or 132 for the rural districts and 569 for the cities. In this connection it must be noted that a great number of people in the rural districts made deposits in the savings banks of the cities, while hardly any residents of the cities made deposits in the banks of the rural districts.

The total amount of money to the credit of the depositors in the savings banks in the Kingdom on December 31, 1890, amounted to 194,141,420 kroner, against 186,554,824 kroner in the preceding year. This shows an increase of 7,586,596 kroner, or 4.07 per cent., against 6.33 per cent. in 1889; but, as the interest added to the depositors' accounts for the year 1890 amounted to 5,822,432 kroner, there would be an actual increase in 1890 of 1,764,164 kroner over the repayments. The increase in amounts deposited in the last decade, together with the interest credited to depositors during the same period, are shown by the following table:

Year.	Increase in amounts deposited.	Interest credited to depositors.	Increase of deposits over repayments.	Increase of repayments over deposits.
	Kroner.	*Kroner.*	*Kroner.*	*Kroner.*
1881	5,154,690	5,736,457	.....	5,811,779
1882	8,001,385	6,064,081	278,290	.....
1883	6,873,240	6,193,981	6,199,174	.....
1884	7,637,306	6,472,348	348,648	.....
1885	2,269,401	6,478,071	.....	1,818,723
1886	996,702	6,530,191	.....	1,959,126
1887	193,648	6,044,174	.....	117,934
1888	5,810,638	5,670,235	5,358,003	.....
1889	11,106,666	5,630,729	5511,151	.....
1890	7,586,596	5,822,432	2,315,315	.....

By an examination of the above figures it will be seen that the average amount per depositor was 412 kroner. The corresponding amount in 1888 was 441 kroner, and 465 kroner in 1875.

The total assets of the savings banks on December 31, 1890, amounted to 25,303,275 kroner, of which 13,672,240 kroner belonged to the banks of the cities and 11,631,035 kroner to the banks of the rural districts. Compared with the preceding year, the present one shows an increase of 566,316 kroner.

The average interest paid the depositors during the last year was 3.17 per cent., and the interest on loans was 4.35 per cent. The expenses of all the banks amounted to 999,384 kroner in 1890, or 0.45 per cent. of the capital invested, against 991,874 kroner, or 0.47 per cent., in the previous year.

FINANCES.

Receipts and expenditures.—The total revenues for the fiscal year ended June 30, 1890, were 50,332,266 kroner, and the expenditures 45,537,190 kroner, showing a surplus of 4,795,068 kroner. As compared with the preceding year, the revenues were 3,979,054 kroner greater and the expenditures were increased 1,933,095 kroner.

The public debt.—The public debt of Norway during the fiscal year ended June 30, 1890, amounted to 115,357,500 kroner, and the assets of the treasury to 76,051,200 kroner.

RAILROADS.

No addition was made to the mileage of the railroads in this country during the past year, which still remains at 1,562 kilometres.

The total railway receipts during the fiscal year ended June 30, 1890, amounted to 9,017,107 kroner, of which 7,320,050 kroner were from the Government roads. Compared with the previous year, the present one shows an increase of 606,751 kroner, 485,081 kroner being from Government roads. The total expenditures amounted to 5,924,697 kroner, showing a surplus of 3,092,410 kroner, against 2,866,000 kroner in the preceding year.

CENSUS.

The census recently taken in this country shows a population of 1,999,176, of which 1,525,637 resided in the rural districts and 473,639 in the cities. The census of 1876 gave a population of 1,813,424. This shows an increase during the last 15 years of 185,752. The population of Christiania is estimated at 150,444.

GERHARD GADE,
Consul.

UNITED STATES CONSULATE,
Christiania, August 3, 1891.

MIGRATION LAW OF GERMANY.

REPORT BY CONSUL-GENERAL EDWARDS, OF BERLIN.

I have the honor to transmit, as of possible interest in connection with the consideration of the question of immigration, a translation of the imperial German right-of-migration law. This law has been in force in the

North German Confederation since January 1, 1868; in Bavaria since May 13, 1871; in Baden, South Hesse, and Würtemberg since January 1, 1871; and became an imperial law through the law of April 16, 1871.

W. H. EDWARDS,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Berlin, September 3, 1891.

IMPERIAL GERMAN RIGHT-OF-MIGRATION LAW.

[Inclosure in Consul-General Edwards's report.]

SECTION 1. Within the territory of the North German Confederation every citizen thereof has the right (1) to halt or settle in any place where he is able to obtain for himself a home or employment; (2) to acquire real estate in any place; (3) to carry on a wandering business or business in the place of temporary or permanent residence, subject to local legal regulations. In the exercise of these rights a citizen of the confederation can not be hindered or impeded by burdensome requirements, either by the authorities at his home or by the authorities of the place in which he wishes to halt or settle, except as authorized in this law.*

To no citizen of the confederation can the rights of temporary residence, permanent residence, carrying on of business, or acquirement of real estate be refused on account of his religious belief or on account of his not being a citizen of the state or commune.

SEC. 2. Whoever claims the rights arising from federal citizenship must, upon demand, present the proofs of such citizenship, and, if a dependent person, must show the consent of the person to whose authority he is subject (father, guardian, or husband).

SEC. 3. In so far as, according to state laws, convicted persons can be subjected by police authorities to limitations of the right of residence, such laws remain in force.† To persons subject to such right-of-residence limitations, or who, within the preceding 12 months, have been punished for repeated acts of begging or vagrancy,‡ the right of sojourn in any other federal state may be denied by the state police authorities. The special laws and privileges of individual localities and districts which permit limitations of the right of sojourn are hereby repealed.

SEC. 4. A municipality (*Gemeinde*) is competent to exclude an immigrant only when it can prove that such person does not possess sufficient strength to support himself and others dependent on him, and that he can not do this from his private means or from the assistance of relatives legally responsible therefor. State laws can limit this power of communities (*Gemeinde*). Fear of future impoverishment does not empower communal authorities (*Gemeindevorstand*) to refuse admission.

SEC. 5. If, after admission, the necessity of public assistance is discovered before the immigrant has gained in the place of sojourn a right of residence (*Unterstützungs-wohnsitz, Heimathsrecht*), and if the communal authorities show that the necessity of assistance rests on other grounds than mere temporary inability to work, the continuance of sojourn may be forbidden.§

SEC. 6. If, in cases where permission or continuance of sojourn can be forbidden, the responsibility of caring for the person is disputed by different communities of one and the same federal state, decision is to be made in accordance with the laws of that state.

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* Or any other imperial law (the law concerning the Society of Jesus, of July 4, 1872; the church-office law of May 4, 1874; the socialist law of October 21, 1878).

† Penal law code, section 39, paragraph 1.

‡ Penal law code, section 361, paragraphs 3 and 4.

§ See law of June 6, 1870; Imperial Law Papers, 1870, No. 20, page 360; and Bavarian laws of April 26, 1868, and February 23, 1872.

The actual expulsion from a place can never take place before the community in question hes agreed to receive the person, or at least a temporary arrangement in regard to his support has been made.

SEC. 7.* If, in the cases mentioned in section 5, different federal states are involved, the matter is to be settled according to the treaty concerning reciprocal obligations for the care of excluded persons, made at Gotha, July 15, 1851,† as well as according to later agreements made for the purpose of assisting in carrying this treaty into effect.

Until accepted by the state responsible for his care, the state of sojourn must provide for such excluded person in the place of sojourn according to the legal regulations obtaining there for the public maintenance of the poor. A demand for the payment of costs thus incurred can be made against the state, communal, or other public treasuries of that state to which such needy person belongs, so far as other agreements do not exist, only when the excluded person has been cared for for more than 3 months.

SEC. 8. A community is not authorized to levy a tax on immigrants on account of their immigration. The same burdens may be laid upon such persons as upon other inhabitants of the community. If the period of sojourn does not exceed 3 months, these burdens can not be laid upon the immigrants.

SEC. 9. What has been stated above for communities applies also to those places where the burden of public maintenance of the poor does not rest upon the community, but upon other legally recognized institutions (poor communes), the burden in such cases resting upon such institutions or upon rural estates which do not lie within the limits of communities.

SEC. 10. The regulations concerning registry of immigrants fixed by state laws remain in force, but neglected registration can be punished only with a police fine, never by loss of the right of sojourn.

SEC. 11. By the mere act of sojourn or settlement, as permitted in this law, other rights are not granted, especially communal citizenship, rights of local burghers, participation in communal privileges, and almonry.

When, however, according to state laws, by sojourn or settlement, when such is uninterrupted for a fixed period, the right of residence (*Heimathsrecht*) is obtained, such laws apply.

SEC. 12. The expulsion of a federal citizen from the place of his permanent or temporary sojourn by police authority in cases other than those provided for in this law is prohibited.‡ Beyond this the regulations concerning police oversight of strangers are not interfered with.

SEC. 13. This law goes into force January 1, 1868.

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* By the law of June 6, 1870 (section 1, paragraph 2), section 7 of this law was made inapplicable to citizens of North Germany, Hesse, Baden, and Würtemberg. As the law of June 6, 1870, did not, however, apply to Bavaria and Alsace-Lorraine, section 7 is still applicable to citizens of these states.

† According to section 1 of the Gotha treaty of July 15, 1851, each of the contracting governments is required, upon demand of another state, to receive back its present or former citizens (the latter, however, only when they have not become citizens of the other state according to its laws).

If the person of whom one of the contracting states desires to be relieved has never been a citizen of the same, then that state must receive him in whose territory (1) after his twenty-first year he has last resided 5 years, or (2) he has married and lived with his wife at least 6 weeks after such marriage. If both of these cases apply, then that one attaches which is most recent. If neither of these cases apply, then the state in which such excluded person was born is obligated to receive him.

For strangers (*Heimathslosen*), the state in which they sojourn must care. If the husband or father was a citizen of a state, so are also the wife and legitimate children; if the husband or father was a stranger (*Heimathslos*), the wife and legitimate children are also. The citizenship of an illegitimate child depends on that of the mother.

Disputes between two federal states concerning rights and obligations springing from this treaty are to be settled according to section 12. In cases where agreement is impossible, settlement is to be sought in a diplomatic manner through the arbitration of a third federal state. The choice of this third federal state belongs to that state which makes claim against taking charge of the person. (Eisenach final protocol, July 25, 1854.)

‡ See note to section 1.

GERMAN EXPORTS TO THE UNITED STATES.

REPORT BY CONSUL-GENERAL EDWARDS, OF BERLIN.

I have the honor to inclose statements showing the value of the exports from the Berlin consulate-general to the United States during the 3 fiscal years ended June 30, 1891. By reference thereto it will be seen that the figures are as follows:

1888	$41,732,218.88
1889	48,080,102.39
1890	61,684,020.87
1891	55,167,255.22

An examination of the trade statistics up to the time when the tariff legislation went into force shows that the exportations from Germany to the United States doubled in 10 years, as follows:

1880–'81	$52,000,000
1881–'82	65,000,000
1882–'83	62,000,000
1883–'84	66,700,000
1884–'85	60,350,000
1885–'86	79,600,000
1886–'87	84,000,000
1887–'88	80,300,000
1888–'89	85,200,000
1889–'90	103,600,000

The exportation to the United States would have to decrease $18,000,000 in order to fall to the level of the year 1888–'89, and even then they would be much higher than in any previous year.

The exportations from this consular jurisdiction for the year ended June 30, 1891, show a larger business than any preceding year by $7,087,152.83, with the exception of the preceding year. In reality, therefore, there is no apparent cause why, in Germany, dissatisfaction should be felt at the tariff legislation.

When the conviction gained ground among German manufacturers that both the customs administrative act and the tariff act would become laws, the finishing of all goods intended for the United States was hastened, and consequently the exportation was greatly increased during the year ended June 30, 1890.

The only district within this jurisdiction where there has been any serious injury to trade is at Chemnitz. That section, aided by early information as to our tariff legislation, managed to export vast quantities of merchandise to the United States before the laws took effect. The overproduction in that district in anticipation of the tariff legislation would necessarily cause a decrease of work. The Chemnitz manufacturers who have profited by the unusual shipments are now said to be urging the working people to cling

to the hope that a modification of the tariff legislation in the United States must take place, and that this will bring them work and wages; but the German workingmen can not wait, as can the rich manufacturers, for the possibility of a modification of the existing laws. In those regions of Germany where the wages have for years been barely enough to support life under the most prosperous and favorable conditions of trade, where the wage-earner never had one favorable turn, never one break in the long hours of exhausting toil, naturally we must expect more or less distress when we find in the commercial world so many unfavorable elements or conditions which must, at one time, be borne by the wage-earner. The truth is, our tariff legislation has simply brought to the surface the intensity of the strain the laboring people of Germany have heretofore been bearing, and has brought to light, at the same time, the extent of the dependence of the German manufacturers on our markets.

The consequences of the changes on the German export trade by the measures adopted by Austria, France, Russia, and other European countries are too remote to be followed on the present occasion; it is sufficient for the purposes of this article to invite attention to the fact that the necessity of protective lines against industrial competition is now as firmly felt and insisted on in Europe as the necessity of protective lines for the military frontiers.

The commercial, industrial, and military tension in Europe has been intensified by three important circumstances in addition to our tariff legislation: (1) the financial troubles in the Argentine Republic, (2) the war in Chile, and (3) the political and financial troubles in Brazil.

Germany's exportation to the Argentine Republic, which had increased in 1889, fell off in 1890 in railway supplies, rails, bar iron, iron wire, machines, cotton and woolen goods, and other articles, as follows: Rails, from 68,762 double centners to 12,435 double centners; bar iron, from 77,652 double centners to 30,542 double centners; machines, from 19,545 double centners to 7,856 double centners; iron wire, from 224,000 double centners to 55,168 double centners. Germany's exportation to Brazil fell off during the year 1890 as follows: Rails, from 123,898 double centners to 74,141 double centners, and iron wire from 40,305 double centners to 31,844 double centners.

The reciprocal treaty between the United States and Brazil, which secured to the United States for agricultural and mining products, steam machines, ironwares, etc., free entry into Brazil, and for numerous industrial products a tariff advantage of 25 per cent., seriously threatens Germany's competition in important articles of export to Brazil.

The war in Chile during the past year seriously disturbed Germany's large and valuable import and export trade with that country.

Table showing the declared exports to the United States from the several consulates in the district of the United States consulate-general of Berlin during the fiscal year ended June 30, 1889.

Articles.	Annaberg.	Berlin.	Bremen.	Breslau.
Albums		$687,043		
Alum earth				$12,603
Amber goods		501		
Animals, birds, etc			$39,568	
Art, works of		11,776		
Artificial flowers		12,000		
Baskets, cane and rattan ware		5,678		
Books and printed matter		16,466	8,370	
Bristles, feathers, horse hair, human hair, etc		47,466	5,191	
Burlaps			2,588	
Buttons	$66,073	44,764		2,757
Candles		198		
Carpets and rugs		2,249		
Cellulose and wood pulp				13,234
Chemicals, drugs, dyes, paints, etc		283,240	23,085	12,303
Chicory and coffee			46,516	
China, porcelain, and earthen ware		35,571	56,699	96,962
Chromos, reliefs, and cards		33,138		10,348
Clocks		2,019		
Colors	4,886	41,539		
Aniline		112,884		
Cork	2,808			
Crude moss			4,581	
Dress and piece goods:				
Astrakhans		15,747		
Cotton and cotton-mixed goods		9,985		
Linen and linen-mixed goods		15,986		906,926
Silk and silk-mixed goods		14,664		335,384
Velvet and plush goods		82,357		
Woolen and woolen-mixed goods		270,832	11,168	54,070
Embroideries, etc	68,676	113,089		
Engravings		25,289		
Fancy feathers		71,681		
Fancy goods, notions, and toys		258,009		
Fringes	1,087			
Fruit juice		2,064		
Furniture		1,913		
Furs, manufactures of		4,476		
Glass, manufactures of		25,639	82,937	21,564
Gloves, kid and leather	151,973	384,493		379,960
Glucose, dextrine, etc		158,825		2,480
Glue, gelatine, etc		1,767		
Glycerine		34,035		
Grains, plants, seeds, and fruits		5,120		3,520
Hides and skins	1,948	48,320	18,958	
Hosiery, cotton		724		
India-rubber goods		17,808	18,003	
Instruments:				
Musical—				
Accordions		69,842	13,235	
Pianos and pianinos		10,886		
Scientific		69,477		
Ivory, manufactures of		3,131		
Jewelry, diamonds, etc		1,047		
Jute bags		20,100		
Laces, etc	20,492			
Lace curtains	24,940			

Table showing the declared exports to the United States, etc.—Continued.

Articles.	Annaberg.	Berlin.	Bremen.	Breslau.
Lamps, parts of lamps, chandeliers, etc.	.....	$34,245	.....	.....
Lanolin, manufactures of	.....	6,218	.....	.....
Leather, manufactures of	.....	41,206	.....	.....
Linen covers	$13,753	.....	.....	.....
Liquors, malt and distilled	.....	32,299	.....	$52,976
Machinery	.....	35,942	.....	1,912
Manure salt and kainite	.....	.....	$159,472	.....
Metal, metal goods, and hardware	.....	.....	12,376	.....
Metals:				
Manufactures of iron and scrap iron	.....	38,543	.....	.....
Manufactures of brass and bronze	.....	46,256	.....	.....
Manufactures of zinc, etc	.....	17,649	.....	89,233
Minerals	.....	448	.....	.....
Miscellaneous	.....	.....	31,187	37,160
Mother-of-pearl goods	.....	2,178	.....	.....
Oil paintings	.....	40,682	.....	.....
Paper and paper ware	21,612	113,171	.....	.....
Paper, fancy	.....	111,803	.....	.....
Pasteboard	.....	.....	34,021	.....
Photographs and photographic paper	.....	12,910	.....	.....
Portland cement	.....	.....	19,845	.....
Potato flour and starch	.....	1,804	.....	.....
Provisions, canned meat, fish, etc	.....	244	103,400	.....
Rags, waste paper, cuttings, etc	.....	187,761	7,665	.....
Rape-seed oil	.....	.....	.....	6,834
Ready-made goods:				
Clothing, dresses, etc	.....	95,969	.....	.....
Cloaks (woolen, silk, etc.)	.....	1,179,167	.....	.....
Collars, cuffs, cravats, and frillings	.....	112,406	.....	.....
Jerseys, etc	.....	267,223	.....	.....
Shawls, mufflers, etc	.....	73,149	.....	.....
Rennets and rennet powders	.....	21,496	.....	.....
Rennets, guts, and bladders	.....	7,098	.....	.....
Rice and rice flour	.....	.....	1,152,270	.....
Spun silk	.....	1,369	.....	.....
Stationery	.....	13,957	.....	.....
Sugar	.....	.....	.....	26,298
Tin foil	.....	.....	.....	2,742
Tinsel goods	7,366	1,090	.....	.....
Tobacco, cigars, cigarettes, and snuff	.....	.....	349,881	.....
Toys	60,094	.....	.....	14,843
Trimmings	1,117,435	136,045	.....	.....
Umbrellas and parts thereof, whips, sticks, etc	.....	2,115	.....	.....
Upholstery goods	784	.....	.....	.....
Violin strings	.....	137	.....	.....
Willow, straw, and wooden ware	.....	.....	100,579	.....
Wines and beer (see liquors)	.....	2,260	118,374	.....
Wood, manufactures of	2,908	11,788	.....	.....
Wool and woolen goods	.....	.....	11,343	.....
Yarns, woolen and worsted	.....	96,177	71,385	.....
Total	1,566,835	5,818,645	2,502,695	2,084,109
Total, 1887–'88	2,471,230	6,203,764	2,091,542	1,957,048
Increase	.....	.....	411,152	127,061
Decrease	904,395	385,119	.....	.....

Table showing the declared exports to the United States, etc.—Continued.

Articles.	Brunswick.	Chemnitz.	Dresden.	Hamburg
Albumen and yolks of eggs	.....	.....	$16,319	$18,962
Animals, birds, etc	$83,395	.....	.....	3,154
Artificial flowers	.....	$1,948	27,114	.....
Baskets, cane, and rattan ware	9,819	5,470	.....	200,173
Books and printed matter	18,807	.....	54,815	11,438
Bricks	.....	3,284	.....	.....
Bristles, feathers, horse hair, human hair, etc	6,107	.....	.....	162,831
Brushes	.....	671	.....	.....
Buttons	.....	1,294	28,379	.....
Cellulose and wood pulp	.....	.....	.....	431,060
Chemicals, drugs, dyes, paints, etc	262,504	.....	51,294	363,783
Chicory and coffee	56,337	.....	.....	61,244
China, porcelain, and earthen ware	4,269	29,260	123,140	102,034
Coat linings	.....	8,137	.....	.....
Colors	9,652	3,962	.....	.....
Crude moss	.....	.....	.....	11,229
Detonators	12,418	.....	.....	.....
Dress and piece goods	.....	1,527,979	.....	.....
Cotton and cotton-mixed goods	.....	6,395	.....	49,458
Linen and linen-mixed goods	6,239	.....	643,675	.....
Silk and silk-mixed goods	.....	174	.....	1,778
Woolen and woolen-mixed goods	.....	5,896	180,141	.....
Ebony	.....	.....	.....	2,443
Embroideries, etc	.....	30,541	.....	.....
Engravings	.....	48	.....	.....
Fancy goods, notions, and toys	8,975	.....	35,166	103,660
Felt	.....	9,817	.....	.....
Flannels and flannel goods	.....	124,508	.....	.....
Fruits (dried) and preserves	.....	.....	.....	113,323
Glass, manufactures of	21,877	328	377,301	.....
Gloves:				
Cotton	.....	357,085	.....	.....
Silk	.....	608,156	.....	.....
Woolen	.....	395,096	.....	.....
Kid and leather	226,604	1,639	.....	83,745
Glucose, dextrine, etc	.....	.....	.....	8,965
Glue, gelatine, etc	9,535	.....	.....	.....
Grains, plants, seeds, and fruits	8,229	.....	.....	163,956
Grease	6,649	1,201	.....	.....
Herrings	.....	.....	.....	86,808
Hemp and hemp goods	.....	.....	.....	54,693
Hides and skins	30,137	.....	.....	390,559
Hollow ware	13,140	.....	.....	.....
Hosiery:				
Cotton	.....	4,652,185	.....	.....
Silk	.....	163,581	.....	.....
Woolen	.....	139,829	.....	.....
India-rubber goods	120,197	.....	.....	411,827
Instruments:				
Musical (accordions)	48,028	603	14,369	24,057
Scientific	7,283	.....	.....	.....
Ivory, manufactures of	.....	.....	.....	87,115
Jewelry, diamonds, etc	.....	.....	.....	16,136
Labels, printed on paper	14,038	.....	.....	.....
Laces, etc	.....	.....	9,928	.....
Leather, manufactures of	.....	230	.....	36,455
Liquors, malt and distilled	92,759	183	.....	278,358
Machinery	.....	15,282	.....	.....
Manure salt and kainite	1,109,330	.....	.....	914,578

Table showing the declared exports to the United States, etc.—Continued.

Articles.	Brunswick.	Chemnitz.	Dresden.	Hamburg.
Metal, metal goods, and hardware	$39,218	$193		$136,003
Metals, manufactures of iron and scrap iron				25,503
Miscellaneous	50,282	1,178	$40,024	21,216
Needles and pins		1,330		
Oil paintings			4,821	
Paper and paper ware	3,692	12,649	65,813	209,022
Percussion caps				5,605
Photographs and photographic paper			353,977	
Photographic lenses	10,468			
Pipes	2,391			
Portland cement	119,702			680,095
Provisions, canned meat, fish, etc	22,108			93,431
Rags, waste paper, cuttings, etc	331,734		22,816	265,741
Ready-made goods:				
Clothing, dresses, etc		1,305		
Cloaks (woolen, silk, etc.)		21,821		
Collars, cuffs, cravats, and frillings		21,786		
Jerseys, etc		5,128		
Shawls, mufflers, etc		80,781		
Rennets, guts, and bladders				43,141
Sauerkraut	1,275			
Salt				815
Sauerbrunnen	8,504			
Straw plaits and straw goods			8,356	
Sugar	7,321,323			38,665
Tobacco, cigars, cigarettes, and snuff			5,384	5,730
Toys		26,084		
Trimmings		11,718		
Traveling rugs		3,706		
Umbrella stuffs		38,910		
Upholstery goods		306,113		
Underwear		134,979		
Wash blue		7,229		
Watch movements			705	
Wines and beer (see liquors)		918		
Wood, manufactures of		74		26,233
Wool and woolen goods	7,109			210,873
Yarns, woolen and worsted	11,550	78,297		
Total	10,115,685	8,848,979	2,063,538	5,955,895
Total, 1887–'88	3,974,222	9,216,865	2,011,870	5,936,535
Increase	6,141,463		51,668	19,360
Decrease		367,886		

Articles.	Leipsic.	Plauen.	Stettin.	Total.
Albumen and yolks of eggs	$198			$35,479
Albums				687,043
Alum earth				12,603
Amber goods			$27,645	28,146
Amber oil			586	586
Animals, birds, etc			572	126,688
Art, works of				11,776
Artificial flowers				41,063
Baskets, cane, and rattan ware				221,140
Blacking (shoe)			13,667	13,667
Books and printed matter	378,218		1,552	489,666
Bricks			23,421	26,705
Bristles, feathers, horse hair, human hair, etc	527,491		86,831	835,915

Table showing the declared exports to the United States, etc.—Continued

Articles.	Leipsic.	Plauen.	Stettin.	Total.
Brushes		$1,491		$2,162
Burlaps				2,588
Buttons	$9,588	134		152,989
Candles		261	$401	860
Carpets and rugs		1,128		3,377
Cellulose and wood pulp			36,632	480,926
Chemicals, drugs, dyes, paints, etc	37,482		21,597	1,055,288
Chicory and coffee			10,419	174,516
China, porcelain, and earthen ware	49,473	12,645		510,052
Chromos, reliefs, and cards	57,281			100,767
Clocks				2,019
Coat linings				8,137
Colors	25,048			85,087
Aniline				112,884
Cork				2,808
Crude moss			243	16,052
Detonators				12,418
Dress and piece goods				1,527,979
Astrakhans				15,747
Cotton and cotton-mixed goods	20,908		120	86,867
Linen and linen-mixed goods				1,572,827
Silk and silk-mixed goods				352,000
Velvet and plush goods				82,357
Woolen and woolen-mixed goods	899,035	1,356,157		2,777,300
Ebony				2,443
Embroideries, etc				212,306
Embroidered goods		83,443		83,443
Engravings			181	25,517
Essential oils	173,517		548	174,064
Fancy feathers				71,681
Fancy goods, notions, and toys				405,810
Felt				9,817
Flannels and flannel goods				124,508
Flocks	1,164			1,164
Fringes				1,087
Fruits (dried) and preserves				113,323
Fruit juice	53,242		28,579	83,885
Furniture				1,913
Furs, manufactures of	869,149			873,625
Galvanos	4,581			4,581
Geese breasts			696	696
Glass, manufactures of				529,646
Gloves:				
Cotton				357,085
Silk				608,156
Woolen				395,096
Kid and leather	312,289	450		1,541,153
Glucose, dextrine, etc			25,883	196,154
Glue, gelatine, etc			1,267	12,568
Glycerine				34,035
Grains, plants, seeds, and fruits	34,632		75,726	891,183
Grease	8,305			16,154
Hair nets		308		308
Herrings			16,384	103,192
Hemp and hemp goods			143,168	197,865
Hides and skins				489,922
Hollow ware				13,140
Hosiery:				
Cotton				4,652,909
Silk				163,581
Woolen				139,829

Table showing the declared exports to the United States, etc.—Continued.

Articles.	Leipsic.	Plauen.	Stettin.	Total.
Household effects			$348	$348
India-rubber goods				567,835
Instruments:				
Musical—				
Accordions	$149,337	$980,218		1,299,688
Pianos and pianinos			312	11,198
Scientific				76,760
Ivory, manufactures of	14,694			104,940
Jewelry, diamonds, etc			478	17,661
Jute bags				20,100
Labels, printed on paper				14,038
Laces, etc	70,852	241,968		343,239
Lace curtains		57,506		82,446
Lamps, parts of lamps, chandeliers, etc				34,245
Lanolin, manufactures of				6,218
Leather, manufactures of				77,891
Linen covers				13,753
Linen torchon laces		17,195		17,195
Liquors, malt and distilled			437	457,011
Machinery	53,494			106,630
Manure salt and kainite				2,183,380
Marl, etamine, etc		40,167		40,167
Metal, metal goods, and hardware				187,789
Metals:				
Manufactures of iron and scrap iron			31,433	95,479
Manufactures of brass and bronze				46,256
Manufactures of zinc, etc			54,098	160,980
Minerals				448
Miscellaneous	20,016	601	4,491	206,1[illegible]
Mother-of-pearl goods				2,178
Music, printed (see books)	89,305			89,305
Needles and pins				1,330
Oil paintings				45,504
Paper and paper ware			1,055	427,015
Paper, fancy				111,803
Pasteboard				34,021
Percussion caps				5,605
Photographs and photographic paper				366,887
Photographic lenses				10,468
Pipes				2,391
Portland cement			148,118	967,760
Potato flour and starch			3,515	5,320
Potato preserves			509	509
Provisions, canned meat, fish, etc				219,182
Rags, waste paper, cuttings, etc			397,552	1,213,269
Rape-seed oil			1,611	8,445
Ready-made goods:				
Clothing, dresses, etc				97,274
Cloaks (woolen, silk, etc.)				1,200,988
Collars, cuffs, cravats, and frillings				134,192
Jerseys, etc				272,352
Shawls, mufflers, etc		95,003		248,933
Rennets and rennet powder				21,496
Rennets, guts, and bladders				50,239
Rice and rice flour				1,152,270
Ruchings, frillings, etc		11,902		11,962
Sauerkraut				1,275
Salt				814
Sauerbrunnen				8,504
Shell goods		11,615		11,615

Table showing the declared exports to the United States, etc.—Continued.

Articles.	Leipsic.	Plauen.	Stettin.	Total.
Shoe findings	$6,168			$6,168
Silk laces		$7,857		7,857
Spun silk				1,369
Stationery				13,957
Straw plaits and straw goods				8,356
Sugar	28,580		$484,749	7,899,616
Tin foil				2,742
Tinsel goods		49,800		58,256
Tobacco, cigars, cigarettes, and snuff			94	361,090
Toys				101,021
Trimmings				1,265,198
Traveling rugs				3,706
Umbrella stuffs				38,910
Umbrellas and parts thereof, whips, sticks, etc.				2,114
Upholstery goods				306,897
Underwear				134,979
Violin strings				137
Wash blue				7,229
Watch movements				705
Wax			3,572	3,572
Willow, straw, and wooden ware				100,579
Wines and beer (see liquors)				121,552
Wood, manufactures of				41,004
Wool and woolen goods			1,199	230,524
Woolen table and piano covers (embroidered, fringed, etc.)	93,815	21,996		115,810
Yarns, woolen and worsted	493,146	1,182		751,737
Total	4,481,006	2,993,025	1,649,690	48,080,102
Total, 1887–'88	4,184,756	2,534,300	1,150,086	41,732,219
Increase	296,250	458,725	499,604	6,347,883

Table showing the declared exports from the several consulates in the Berlin consular jurisdiction to the United States during the fiscal year ended June 30, 1891.

Articles.	Annaberg.	Berlin.	Bremen.	Breslau.	Brunswick.
Albums		$591,431			
Animals, birds, etc.			$22,067		$108,234
Artificial flowers		23,019		$2,757	
Books and printed matter		60,924	14,446		6,266
Bristles, hair, brushes, etc.	$5,498	56,004	2,065	8,041	
Buttons and button covers	138,894	137,539			
Cellulose and wood pulp				84,501	
Chemicals, etc.		342,292	20,322	25,969	343,841
China ware, porcelain, etc.		37,189	15,252	116,475	
Chromos, etc.		26,287		8,566	
Colors	5,724	153,307			
Crude moss			2,031		
Dress and piece goods		706,842	11,934	444,992	
Fancy feathers		126,121			
Glass, manufactures of		109,337	145,518	57,611	55,165
Gloves:					
Cotton	289,931				
Leather		513,786		573,015	200,002
Glucose and other potato products		94,553		1,382	
Grain, plants, seeds, and fruits				2,434	

Table showing the declared exports to the United States, etc.—Continued.

Articles.	Annaberg.	Berlin.	Bremen.	Breslau.	Brunswick.
Grease					$50,568
Hides and skins		$144,963			28,380
Hollow ware					13,218
India-rubber goods			$1,622		88,685
Instruments:					
Musical		83,604	602		7,886
Scientific		64,093			7,416
Laces, etc	$146,488				
Leather, manufactures of		35,261			
Linen goods, collars, etc		336,712		$770,838	
Liquors, malt and distilled		50,787	125,924	52,776	16,353
Lithographs, etc		99,405			
Manure salt and kainite		43,559			498,545
Metal wares		224,091	223	41,262	55,507
Miscellaneous and fancy goods	6,636	249,929	81,111	133,521	170,939
Oil paintings		27,076			
Paper wares	47,102	203,927	14,020	5,912	
Portland cement		6,383	42,783	1,717	393,603
Provisions, canned meat, fish, etc			10,292		
Rags		132,578	4,932		200,230
Ready-made cloaks, costumes, etc		881,776			
Rice and rice flour			1,791,264		
Shawls and mufflers		54,968			
Sheep guts, etc		224,530			
Sugar		15,369		230,660	1,755,872
Tobacco, cigars, cigarettes, and snuff			777,700		
Toys, wooden wares, etc	40,664		48,228	6,755	
Trimmings and embroideries	1,173,046	61,392			
Yarns		73,260	16,579		
Total	1,853,983	5,992,293	3,148,916	2,569,184	4,000,711
Total, 1889–'90	1,258,249	5,650,865	2,783,869	2,618,320	2,563,463
Increase	595,734	341,428	365,047		1,437,248
Decrease				49,136	

Articles.	Chemnitz.	Dresden.	Hamburg.	Leipsic.
Albumen and yolks of eggs		$14,134	$3,283	
Animals, birds, etc			8,878	
Artificial flowers	$6,510	97,038		
Baskets, cane, etc	4,548		299,456	
Books and printed matter	2,995	57,909	4,888	$457,147
Bristles, hair, brushes, etc			216,458	604,002
Buttons and button covers	6,051	9,599		12,842
Chemicals, etc	2,140	46,891	412,302	209,776
Chicory and coffee			84,972	
China ware, porcelain, etc	23,469	133,233	14,421	30,580
Chromos, etc				77,747
Colors				31,986
Dress and piece goods	942,610	106,192	57,254	1,324,699
Fancy feathers				15,692
Felt	4,077			
Furs				2,066,789
Glass, manufactures of		316,970		
Gloves:				
Cotton	359,806			
Silk	501,891			
Woolen	263,590			
Leather	20,203		27,170	173,280

Table showing the declared exports to the United States, etc.—Continued.

Articles.	Chemnitz.	Dresden.	Hamburg.	Leipsic.
Glucose and other potato products	.....	.....	$16,345	.....
Grain, plants, seeds, and fruits	.....	.....	761,471	$20,974
Grease	$9,472	.....	.....	50,081
Herring	.....	.....	69,991	.....
Hides and skins	.....	.....	348,557	.....
Hosiery:				
Cotton	5,118,410	.....	.....	.....
Silk	185,008	.....	.....	.....
Woolen	116,045	.....	.....	.....
India-rubber goods	.....	.....	620,834	.....
Instruments:				
Musical	1,782	$13,537	9,565	224,693
Scientific	.....	.....	.....	22,107
Ivory	.....	.....	104,067	.....
Leather, manufactures of	.....	.....	67,818	.....
Linen goods, collars, etc	2,787	606,474	2,081	.....
Liquors, malt and distilled	.....	.....	140,529	44,079
Manure salt and kainite	.....	.....	1,265	.....
Metal wares	27,181	5,618	144,091	86,799
Miscellaneous and fancy goods	525,046	197,595	67,183	89,098
Oil paintings	.....	4,000	.....	.....
Paper wares	5,985	297,223	43,595	.....
Portland cement	.....	.....	627,919	.....
Provisions, canned meat, fish, etc	.....	.....	38,928	.....
Rags	.....	27,116	226,966	.....
Shawls and mufflers	23,035	.....	.....	.....
Sheep guts, etc	.....	.....	47,194	.....
Sugar	.....	.....	5,452,926	420,078
Tobacco, cigars, cigarettes, and snuff	.....	4,904	179,302	.....
Toys, wooden wares, etc	22,860	.....	25,494	.....
Trimmings and embroideries	120,271	3,918	.....	21,991
Underwear	122,563	.....	.....	.....
Wool	.....	.....	12,571	.....
Yarns	35,690	.....	.....	91,350
Total	8,454,024	1,942,352	10,137,770	6,075,787
Total, 1889–'90	11,395,534	2,559,252	8,463,907	4,961,617
Increase	.....	.....	1,673,863	1,114,170
Decrease	2,941,510	616,900	.....	.....

Articles.	Magdeburg.	Plauen.	Stettin.	Total.
Albumen and yolks of eggs	.....	.....	.....	$17,417
Albums	.....	.....	.....	591,431
Amber goods	.....	.....	$53,786	53,786
Animals, birds, etc	.....	.....	.....	139,179
Artificial flowers	.....	.....	.....	129,324
Baskets, cane, etc	.....	.....	.....	304,004
Books and printed matter	.....	.....	.....	604,575
Bristles, hair, brushes, etc	.....	$1,866	140,877	1,034,811
Buttons and button covers	.....	.....	.....	304,925
Cellulose and wood pulp	.....	.....	.....	84,501
Chemicals, etc	$1,086,989	.....	44,159	2,534,680
Chicory and coffee	17,563	.....	12,485	115,021
China ware, porcelain, etc	4,126	37,086	31,387	443,218
Chromos, etc	.....	.....	7,395	119,996
Colors	.....	.....	.....	191,018
Crude moss	.....	.....	.....	2,031
Dress and piece goods	.....	1,796,376	.....	5,390,868

Table showing the declared exports to the United States, etc.—Continued.

Articles.	Magdeburg.	Plauen.	Stettin.	Total.
Fancy feathers				$141,813
Felt				4,077
Furs				2,066,789
Glass, manufactures of				684,601
Gloves:				
Cotton				649,737
Silk				501,891
Woolen				263,590
Leather	$75,134			1,582,590
Glucose and other potato products	11,288		$108,488	232,056
Grain, plants, seeds, and fruits			100,306	885,185
Grease				110,121
Hemp			90,973	90,973
Herring			37,905	107,896
Hides and skins			6,687	528,588
Hollow ware	55,272			68,490
Hosiery:				
Cotton				5,118,410
Silk				185,008
Woolen				116,045
India-rubber goods				711,139
Instruments:				
Musical	40,784	$1,099,092		1,481,545
Scientific				93,616
Ivory				104,067
Laces, etc		27,019		173,507
Leather, manufactures of				103,079
Linen goods, collars, etc				1,718,892
Liquors, malt and distilled	4,716			435,164
Lithographs, etc				99,405
Manure salt and kainite	670,477			1,213,846
Metal wares	68,368		17,093	670,233
Miscellaneous and fancy goods	104,969	54,003	56,025	1,736,056
Oil paintings				31,076
Paper wares				617,763
Portland cement			253,811	1,326,215
Provisions, canned meat, fish, etc				49,219
Rags			339,307	931,129
Ready-made cloaks, costumes, etc				881,776
Rice and rice flour				1,791,264
Sauerkraut	24,213			24,213
Shawls and mufflers		86,871		164,873
Shell goods		11,435		11,435
Sheep guts, etc				271,723
Sugar	2,508,411		1,530,730	11,914,046
Tobacco, cigars, cigarettes, and snuff				961,906
Toys, wooden wares, etc				144,000
Trimmings and embroideries		374,770		1,755,387
Underwear				122,563
Wool				12,571
Yarns				216,879
Total	4,672,310	3,488,518	2,831,408	55,167,255
Total, 1889–'90	13,831,183	4,213,861	1,383,898	61,684,021
Increase			1,447,510	
Decrease	9,158,873	725,343		6,516,766

W. H. EDWARDS,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Berlin, August 15, 1891.

MERCANTILE MARINE OF DENMARK.

REPORT BY CONSUL RYDER, OF COPENHAGEN.

MERCANTILE MARINE.

A review of the tabulated returns just issued from the statistical department relating to the mercantile marine of Denmark shows that at the close of the past year there were 3,376 vessels, with an aggregate registered tonnage of 294,593 tons, of which 3,054 were sailing vessels of 182,145½ tons and 322 were steamers of 112,447½ tons. In addition to these, there were 11,252 vessels of or below 4 registered tons. The number, in the course of 1890, is shown to have been increased by 133 vessels of 13,578½ registered tons, the increase both in ships and tonnage holding good both for sailing vessels and steamers. From the close of 1889 to the close of 1890 the number of sailing vessels increased by 116 and steamers by 17; the increase of tonnage for the same period was 4,708 registered tons for sailing vessels and 8,870½ tons for steamers. These tables show that in the course of the last 10 years the number of sailing vessels has increased by 173 and steamers by 121; the tonnage of sailing vessels, however, has decreased by 15,363½ tons, or nearly 8 per cent., while the tonnage of steamers has increased 60,491 tons, or 117 per cent. On December 31, 1889, the average tonnage of sailing vessels was 69 registered tons and of steamers 258 tons, and on December 31, 1890, the average tonnage of sailing vessels was 60 tons and of steamers 349 tons; from which it is plainly made manifest that a steady change has been going on from sail to steam, and, in the latter class, from smaller to larger vessels.

This increase in the mercantile marine has taken place partly through the building of new ships at home and partly through purchase in foreign countries. The increase through the building of new ships in the past year consists of 78 vessels (67 sailing vessels and 11 steamers), with an aggregate tonnage of 9,940 registered tons, which is considerably in excess of the average tonnage for the past 5 years. This increase falls to the share both of sailing vessels and steamers. The tonnage of sailing vessels in 1890 amounted to 3,309 registered tons and of steamers to 6,631 registered tons, against 2,078 tons and 3,527 tons, respectively, the average for the last 5 years. Of the 67 sailing vessels built in 1890, 27, with an aggregate tonnage of 565½ tons, are classed as fishing vessels. The total number of fishing vessels at the close of 1890 was 817 sailing vessels of 9,559 registered tons and 2 steamers of 90 registered tons. The total cost of the home-built vessels in 1890 amounted to 4,800,000 kroner, which is considerably more than the average amount for the preceding 5 years, viz, 2,400,000 kroner.

The increase in the mercantile marine through purchase in foreign countries was 73 vessels, with an aggregate tonnage of 16,915½ registered

tons. This increase in 1890, both in number and tonnage, does not come up to the corresponding figures for foreign purchases in the preceding year, which consisted of 85 ships of 25,915½ registered tons, but is larger than the average of the 5 years 1886–'90, which only reached 59 vessels of 13,559 registered tons. The amount paid for ships purchased in foreign countries in the past 5 years is set down in the tables as follows: In 1886, 438,000 kroner; in 1887, 664,000 kroner; in 1888, 1,607,000 kroner; in 1889, 4,318,000 kroner; and in 1890, 3,919,000 kroner. The collective amount for both sailing vessels and steamers purchased in the past year in foreign countries is thus seen to have been a trifle over 3,900,000 kroner. This is somewhat below the amount for the preceding year, but is about double the amount of the average for the 5 years 1886–'90, which was only 2,000,000 kroner. To the increase and rebuilding of the Danish mercantile marine there has thus been employed during the past year a capital amounting to no less than 8,700,000 kroner, which is the largest amount that has hitherto been reached in any year. The decrease which has taken place in the marine during 1890 was as follows: Losses at sea, 6,589 registered tons, valued at 1,039,000 kroner; sales to foreign countries, 6,066 registered tons, valued at 346,300 kroner; breaking up of ships' hulls, 417 registered tons.

NAVIGATION.

The navigation of the Kingdom may be classed under three headings, (1) the coasting trade, (2) the general carrying trade to and from foreign countries, and (3) the participation of vessels under the Danish flag in the general freighting business between different foreign ports.

The coasting trade is extensive both in passenger and freight traffic, and may be said to be exclusively confined to vessels under the national flag. It is mainly monopolized by the United Steam Shipping Company, of Copenhagen, with a fleet of 69 steamers and an aggregate tonnage of 36,483 registered tons.

As regards the general trade between the Kingdom and foreign countries, there were entered in 1890 in the different ports of the Kingdom 26,960 vessels, with 2,009,347 tons of cargo, and 26,963 vessels, with 527,494 tons of cargo, cleared, making a total of 53,923 vessels, with 2,536,841 tons of cargo, of which 27,852 were sailing vessels, with 715,904 tons of cargo, and 26,071 steamers, with 1,820,937 tons of cargo. Taking the average of the total clearances for the 5 years 1886–'90, the tables show that the foreign trade has been carried on pretty equally by vessels under the national flag and under foreign flags, 50½ per cent. having been carried by Danish vessels and 49½ per cent. by vessels under foreign flags. Taking, however, the imports and exports by themselves, it is seen that in these 5 years, while the foreign vessels have had a larger share of the inward trade (55¾ per cent., against 44¼ per cent. by vessels under the Danish flag), the greater part of the outward trade (chiefly agricultural produce) has been carried by vessels under the Danish flag (73½ per cent., against 26½ per cent. under foreign

flags). The Kingdom's foreign trade by sea, as shown by the accompanying table, will be found to have maintained a steady forward movement, so that, at the close of 1890, it reached 210,000 tons above the average of the 5 years 1886–'90.

The general freighting business by vessels under the Danish flag may be said to be chiefly carried on with ports in Europe and America. The business of those trading in Australian and Indian ports is small.

Table showing the number, tonnage, and cargoes of sailing vessels entering and clearing the ports of Denmark from 1886 to 1890.

Year.	Danish.			Foreign.		
	Number.	Tonnage.	Cargoes.	Number.	Tonnage.	Cargoes.
			Tons.			*Tons.*
1886	9,640	560,493	312,920	14,564	797,999	416,325
1887	10,505	585,960	318,484	15,826	852,023	451,561
1888	10,715	590,071	324,057	16,493	838,348	438,960
1889	11,661	649,997	354,642	16,634	863,016	454,218
1890	11,178	593,297	314,069	16,674	786,167	401,835

Table showing the number, tonnage, and cargoes of steamers entering and clearing the ports of Denmark from 1886 to 1890.

Year.	Danish.			Foreign.		
	Number.	Tonnage.	Cargoes.	Number.	Tonnage.	Cargoes.
			Tons.			*Tons.*
1886	12,139	2,646,442	710,680	6,259	1,907,862	552,924
1887	13,502	2,875,683	800,110	7,527	2,180,738	629,590
1888	12,793	2,859,979	819,488	7,956	2,459,556	812,472
1889	13,554	3,145,366	902,563	8,324	2,544,008	801,265
1890	18,066	4,100,071	1,016,649	8,005	2,552,605	804,288

HENRY B. RYDER,
Consul.

UNITED STATES CONSULATE,
Copenhagen, August 25, 1891.

Wheat toll (octroi) in Mexico.—Minister Ryan, under date of September 24, 1891, transmits to the Department a translation of a decree amending the hitherto existing toll tariff on wheat and flour in the federal district and the city of Mexico. The new toll rates are as follows, as given in the translation: (1) wheat flour or wheat grain laid for threshing, $1.45 per 100 kilogrammes; (2) wheat flour in granules, all classes, $1.10 per 100 kilogrammes; (3) wheat (that which is introduced into the city of Mexico) gross, 90 cents per 100 kilogrammes.

CONSULAR REPORTS

ON

COMMERCE, MANUFACTURES, ETC.

No. 135.—DECEMBER, 1891.

AGRICULTURAL IMPLEMENTS IN PERSIA.

REPORT BY CONSUL GENERAL BEALE, OF TEHERAN.*

Enclosed please find a prospectus of the Imperial Tobacco Corporation of Persia.

It will be seen that it is a corporation with a capital of $3,250,000, It is a monopoly. It has absolute control of all the tobacco cultivated and sold in Persia. It has been in active operation for six months.

The primitive and crude implements of agriculture in use here, and the amount of work that is accomplished with them, are in striking contrast with the gang plows and other American agricultural implements in use in California and other parts of the west. To plow a field adjoining our legation here, containing a little more than an acre of ground, has required the arduous labor of two oxen and one man a whole day on level ground that had been previously plowed. Twenty acres of such land could be better plowed in one day with the gang plow to be found on any large ranch in California. I explained this to Mr. Julius Ornstien, the general manager of the Imperial Tobacco Corporation, and suggested to him our installment plan of selling machinery, reminding him of the far better security his company would have than those in the same position in the United States, as they have absolute control of the crops cultivated. He entirely agreed with my ideas, and gave a large order for American agricultural implements to a New York firm to fill The experiment is to be tried with these implements in all parts of Persia. I think it has opened the way for American implements throughout the Empire.

Since my residence in Persia I am convinced that there is no greater fallacy than the opinion held by many in England and the

*Also Minister Resident..

United States, viz., that the improvements of eastern countries by the introduction of western machinery is impossible, because eastern labor is so cheap that it is cheaper than the interest on money that the machinery costs.

Let the machinery be adapted to its work, and not too advanced for the country into which it is imported, and it is cheaper than the cheapest labor.

TRUXTON BEALE,
Consul General.

U. S. CONSULATE GENERAL.
Teheran, October 18, 1891.

PRODUCTIONS AND EXPORTS OF BERMUDA.

REPORT BY VICE CONSUL HEYL.

Our agricultural products are about the same each year. The principal crop is the onion, and their mild flavor is caused by the genial climate and porous rock beneath the soil, whereby the overplus of moisture is drawn off. When the soil becomes dry the heat of the sun will draw sufficient moisture to the surface to nourish the plant, as well as make quick growth. Both white and red onions are planted in seed beds, the first in September, and the young plants are set out in beds as soon as large enough. The red seed will not stand planting so early; it is put down at the end of October or early in November, and produces the milder onion of the two; but they cannot be set out until December and January, otherwise they will split and give very poor returns. The soil has been ruined in a great measure by the artificial fertilizers that are imported here; they stimulate the soil for the first one or two years, but in many parts of the island where the soil is light, slight returns are obtained, while in former years that same soil produced the best crops, seaweed then being the only fertilizer used. The red soil has large proportions of iodine in it, and seaweed makes a good fertilizer (owing to the iodine in it). Great quantities of lily bulbs are grown here. They do best in the red soil, but are an expensive crop to raise, the weeds being very hard to keep under, as here they grow both summer and winter luxuriantly. Labor is high (98 cents per day) for the amount of work done, which is also inferior, directions not being followed unless enforced by the employer's presence.

Every man who has an acre of ground to plant has a horse, and the only implements that can be used in most places are the hoe, fork, and spade. The patches are very small and a horse is quite useless. In this little island of 26 miles long and some places only 1½ miles wide, there are 745 horses, and should there be a failure in crops the

distress would be very great from having so many cattle to feed, as no fodder is raised for the cattle. The grass that is grown here has very little nourishment in it. The steamers that ply between this port, New York, and Halifax are laden with cargoes each trip, and two-thirds of these cargoes is feed for horses.

EXPORTS TO THE UNITED STATES.

The following table gives the shipments of produce to the United States by steam and sail vessels, and their values for the official year ending June 30, 1891.

Articles.	1890.		1891.	
	Quantity.	Value.	Quantity.	Value.
By Steamer:				
Arrow root ..... boxes				$1,636.42
Beets ..... boxes	5,153	$3,604.90	2,363	1,247.75
Lily bulbs				22,084.70
Onions ..... boxes	245,671	356,800.43	261,581	339,961.50
Potatoes ..... bbls	32,153	154,827.02	25,529	125,148.87
Tomatoes ..... boxes	28,051	7,998.90	10,882	3,392.88
Total		523,231.25		493,472.12
By sail.				
Onions ..... boxes			38,615	52,558.25
Potatoes ..... bbls			315	
Total to United States				546,030.37

THE INSECT PEST.

This island was clear of insect pest until some time in 1858 or 1859. A vessel was brought here in distress with a cargo of oranges which were sold at auction. The fruit was carried all over the island, and in a few months after our flourishing trees were covered with an insect which gave the trees the appearance of being whitewashed. The insects fed on the bark of the tree, extracting the yellow sap therefrom, and causing the bark to curl up. Every device thought of was tried, but the island was soon cleaned of nearly every tree, and now you hardly see an orange tree. All this came from the distress cargo. Another insect was introduced in peaches, the island at that time being stocked with a delicious peach. This insect was a small white maggot in the peach which destroyed all the peaches on the island. As the peaches fell on the ground no one took the trouble of destroying the germs, and they increased so that they attacked other fruit, mangoes, loquot, etc. The maggot turned into a very small bug. I send two in a small phial. I send also a pamphlet of five essays on the spiral snails. These snails are picked up by the barrel in

some places, and they are destroying everything in the shape of vegetation. Samples of these snails are also in the phial.*

The liquors exported to the United States, as given in the following statement, amounting to $117,755.53, are mostly American whiskey, taken out of bond and exported here to improve in this climate; it is said that one year is equal to two years in the United States, and the saving of storage is very great. The amount of whiskey returned amounts to $113,039.30, a heavy falling off from former years, and the shipments hither from New York are not so frequent nor so large.

Liquors	$2,650.20
Rum	2,066.03
Whiskey	113,039.30
Total	117,755.53

J. B. HEYL,
Vice Consul.

UNITED STATES CONSULATE,
Bermuda, June 30, 1891.

MEXICAN AGRICULTURE AND HORTICULTURE.

REPORT BY CONSUL SAMPSON, OF PASO DEL NORTE.

The character, condition, and prospective yields of the agricultural and horticultural industries have varied very little in this section of Mexico for many years, with nothing to indicate any early change, hence a report of to-day answers just as well for years past, and more than likely will for years to come.

There is never a failure of crops or fruits, for the absence or presence of rain is a matter of comparatively little concern, as dependence is placed in irrigation altogether.

There does not seem to be any disposition to raise much more than a home supply in grains or fruits, except grapes. In the last five years a few car loads of flour have been shipped by one firm to Merida, Yucatan. As a rule the flour produced here is consumed in this vicinity, or in the State of Chihuahua. The principal products, as aforesaid, of this consular district are in this, the Rio Grande Valley.

From the foregoing it will be seen there is very little to export from this consular district to the United States, except the ore export, which is large.

*Pamphlet and phial sent to the Agricultural Department.

Of "the products of the farm, garden, and orchard," practically none are exported to the United States, except grapes and bran· hence there is no established price on these as "exports."

There has been but little increase in the products of farms or orchards for many years, save in the increased growth of grapes.

This year there have been grown in the valley of the Rio Grande, in this consular district, about 100,000 bushels of corn, 75,000 bushels of wheat, and 25,000 bushels of barley.

Very little of the grain or fruit grown or produced in this consular district is consumed outside of it, except as before stated.

"As to the character (kind) of agricultural implements in use," they are principally of latest American invention and manufacture, or the ancient straight stick for a plow, the sickle for reaping, and the flail and winnowing for separating. These two extreme methods of farming are found side by side. American plows, mowers, reapers, threshers, etc., are in use by some who farm on a larger scale, while others who only farm a few acres hold to ancient means and methods.

Beans, Chili, sweet potatoes, corn, and all kinds of vegetables, are grown in this district, but few are exported to the United States. Previous to the tariff act of 1890, beans and Chili were.

I will make a separate report on the grapes and wine of this consular district, as I have not yet been able to secure the data as to these, for the growth and production is large.

A. J. SAMPSON,
Consul.

UNITED STATES CONSULATE,
Paso del Norte, November 1, 1891.

TRAMWAYS AND WATERWORKS IN ENGLAND.

REPORT BY COMMERCIAL AGENT SMYTH, OF HUDDERSFIELD.

INTRODUCTORY REMARKS.

In my report on the public ownership of gasworks in Great Britain and Ireland I endeavored to show that the system had worked very satisfactorily and promised to revolutionize the price of gas in all the large cities which had recourse to its adoption. The same applies to two other branches of the public service, waterworks and tramways, which are now gradually becoming municipalized in England.

Cheap gas and cheap water, as well as cheap transportataion, are three essentials that enter largely into the comforts and conveniences of life in large cities. The two latter especially play an important part

in the sanitary affairs of communities, for while one exerts its beneficial effects in a more direct line, the other contributes to results almost similar by assisting the mobility of population and relieving congested districts where low social conditions prevail and moral and physical diseases are generated. To the masses in the cities, therefore, the tramway as well as the water supply becomes a great institution, localized and popularized by this system of municipalization. Its regulation or control by municipal authorities has a special humane feature which deserves to be recognized, a feature that might well be considered by the owners of street-car lines in the United States, that which relates to the interests of employés. I have noticed particularly that employés of tramways in those English cities which operate their own lines are better taken care of than most of their kind in the United States. This is entirely due to that broad and humane policy which some public bodies are capable of exerting toward their servants, the very opposite of the selfish and inhuman treatment which is their sad allotment in the affairs of the average joint stock company. There is more attention paid to their personal comforts in the way of clothing, housing, and the duration of their daily service. The Glasgow corporation has certain specific clauses in its lease which relate to this subject, one of which says:

"Only such persons as can satisfy the Magistrate's Committee that they have a thorough knowledge of the city and of the duties of a car conductor shall be licensed as such. The working day of conductors and drivers shall not exeeed an average of ten hours. The conductors of cars shall be provided with proper uniform, consisting of tunic, trousers, and cap, and no conductor shall be permitted to be on duty without uniform. A uniform great coat shall be provided for the winter months. No conductor, driver, or other officer shall be permitted on a car unless his clothing is in good order and his whole person clean and tidy. The lessees shall provide proper sanitary conveniences for the drivers and conductors at places where these are requisite, and as may be agreed on with the corporation."

THE AMERICAN TRAMWAY SYSTEM ESTABLISHED IN ENGLAND.

Birkenhead was the first town in England to adopt the American system of street railroads. This was eight or ten years after it had been established in the United States. Its introduction was accomplished through the enterprise of an American who was denied an enactment by Parliament for the execution of similar plans in London two years before. From that time dates the era of the present system in English towns, somewhat improved and perfected, but in principle still the same. It superseded the old wooden tramway which found its way into the American forest as the adjunct of the sawmill and is now totally forgotten here. In the beginning of 1889 eleven of the largest towns were operating their own street railroads, as follows:

	Capital expended.	Line open.	
		Miles.	Chains.
Glasgow	£346,937	30	17
Liverpool	303,569	28	27
Birmingham	211,150	19	50
Manchester	126,310	28	24
Blackburn	97,850	8	33
Sheffield	90,507	9	34
Salford	90,137	13	26
Accrington	88,055	9	36
Huddersfield	75,572	10	50
Bradford	73,675	12	27
Newcastleton-on-Tyne	63,750	11	26

Since that time the work of extension has been going on everywhere, so that the above figures do not by any means represent the extent of the service as it stands to-day. Urban authorities have undertaken to provide street-car service under the direction of what is known in England by "local board." Such is the case with Mass Side, Withington, and Newton Heath, which have expended about £40,000 on their lines. A writer on local government finances, in a paper of the Financial Reform Association, has the following to say in this connection:

In most cases, however, it is merely the lines that are owned by the public authority, not the working plant. A special clause in the Tramways Act of 1870 expressly prohibits, indeed, any public authority from itself working a tramway without the intervention of a contracting middleman. This was, perhaps, the last occasion on which the now universally exploded doctrine of "Administrative Nihilism" was able, unchallenged, to prevail over public industry. It is shameful to think that this deliberate stifling of public enterprise was the work of a liberal president of the board of trade, John Bright. One of the points to be insisted upon in any grant of further powers to local authorities must be the repeal of this express legal "protection" to the private capitalist of the toll which he levies upon our street communications.

HUDDERSFIELD'S TRAM SERVICE.

Huddersfield was the first town in England to throw off the yoke imposed by that act. The corporation succeeded in having an act passed which enabled it to operate a street-car service of its own. This has been done successfully since 1882, steam being used as the motive power in consequence of the steep gradients with which the borough abounds. A boiler and engine, inclosed in a car frame forming a sort of short tram, are used. The engine cylinders are from six to ten inches in diameter, with a corresponding length of stroke from ten to twelve inches. Most of the traction cars have a number of longitudinal pipes on top which are used as condensers. The exhaust steam instead of being allowed to escape in the open air is forced through these, condensed, and carried back into the

feed tank, whence it is again pumped into the boiler at an advanced temperature. The passenger cars are "double deckers," the upper part being inclosed with a framework of light wood and glass. The difference in the fare for the upper and lower parts reduce it to an average of three cents. All the tramway cars in Great Britain and Ireland are about the same size—constructed to accommodate 22 inside and 24 above. Their operation by steam traction is regulated by the board of trade, which exercises a close supervision over this branch of the public service. The interests of public traffic, as well the safety and comforts of the general public, are in all cases scrupulously guarded. It may be said to the credit of the Huddersfield corporation that they set a good example to other municipal bodies when they reduced the working time of their tramway servants to eight hours per day without deducting a penny from their wages.

The tram service of London is controlled by private companies. In 1889, on an expenditure of $16,000,000, they made a net profit of nearly one million.

Dublin stands next to London in the extent of its street-car service, which is in the hands of a joint stock company. Their net profit for the same year on an expenditure of $4,000,000 was $130,000. Other towns are as follows:

	Capital expended by the company.	Line open.		Net profit made.
		Miles.	Chains.	
Edinburgh	£475,119	19	58	£35,351
Belfast	251,638	18	11	22,169
Bristol	171,895	11	2	No return.
Portsmouth	159,720	11	77	6,000
Cardiff and District	151,319	8	47	4,161
Bury, Rochdale, and Oldham	138,675	30	22	3,863
Vale of Clyde	134,240	4	11	7,398
Leicester	126,538	8	74	5,650
Swansea	108,613	5	39	6,836
Nottingham	108,000	10	40	3,217

The franchises of some of the early established companies in England expire during the present year under the acts of Parliament (33 and 34 Vic., cap. 78, sec. 43), which limit them to twenty-one years. This act provides that local authorities shall have power to take over the whole concern upon payment of the actual value of the stock and plant when the twenty-one years limit has been reached. The provisions of this act did not apply to Huddersfield, which had a special act passed, and thus were enabled to do what no other town in England could do at the time—own and operate its own tramways from the start.

WATER AND WATERWORKS.

The extent of the manufacturing industries in England has been a very potential factor in the construction and maintenance of large water undertakings in the provincial towns and districts. Had it not been for the necessities thus created many towns and hamlets which to-day are enjoying a copious supply of water from remote sources would still be shaking hands with the town pump or dallying with the old oaken bucket at the well. Now every little town or hamlet where there is a sprinkling of factories has a water supply.

It is conducted chiefly from elevated sources by gravitation, very little tower pressure being used. You would imagine that in a country like England, where the clouds are everlastingly being precipitated on the earth, the water problem would be a very simple one to solve. Yet such is not the case. Every town and village about is constantly wrestling with it. It is true the needs of manufacturing are the prime source of all the trouble, and through this very same agency vast expenditures have been made, and splendid undertakings accomplished. As far back as 1613 London was supplied by a conduit forty miles long, the source being the celebrated chalk waters of Hertfordshire. Glasgow is supplied from Loch Katrine, Manchester from Thirlmere in Cumberland, Dublin from the Wicklow Mountains, and so on. The great importance first of being able to obtain a supply of good water, and secondly of being able to distribute it at reasonable rates, led municipal bodies to consider the expediency of taking hold of this enterprise and managing it as a branch of the public service. The principal waterworks of Great Britain and Ireland are thus owned by municipalities, as may be seen from the following table:

Municipalities.	Water revenue.	Water expenditure (including interest and sinking fund).
Manchester	£221, 752	£212, 150
Liverpool	216, 711	225, 053
Glasgow	163, 923	160, 111
Bradford	112, 744	112, 917
Leeds	91, 609	87, 316
Edinburgh	84, 238	81, 660
Nottingham	59, 847	38, 439
Dublin	57, 612	59, 262
Oldham	50, 577	43, 918
Bolton	49, 676	39, 675
Huddersfield	44, 065	43, 181
Dundee	42, 851	41, 093
Leicester	38, 777	30, 259
Belfast	34, 717	35, 816
Hull	32, 124	25, 257
Blackburn	31, 825	35, 101
Preston	19, 193	17, 492
Swansea	11, 735	16, 527

The total receipts of local authorities in England and Wales from water supply were, in 1887–8, £2,267,932, and their total expenditure £879,167, leaving a surplus adequate to pay the interest and sinking fund on the outstanding waterworks debt of £35,363,955.

Unfortunately the water supply is by no means universally under public control, even outside the Metropolis. London, of course, stands foremost in this neglect of civic duty, paying an annually increasing water rate for an annually decreasing supply per house, costing the eight companies £648,950 in 1887, and sold by them for £1,726,276, leaving a net profit of £1,077,326 on an outlay of £14,140,434. But some other large towns are in almost as bad a condition.

TOWNS WITH WATER SUPPLY IN PRIVATE HANDS.

Population in 1881.

Bristol *†	206,874	South Shields *	56,875
Newcastle *	145,359	West Bromwich †	56,295
West Ham *‡	128,953	Middlesboro' †	55,934
Portsmouth *†	127,989	York *	49,530
Sunderland *	116,542	Hanley *†	48,361
Norwich *†	87,842	Dudley *†	46,252
Gateshead *†‡	65,803	Great Yarmouth *†	46,159
Stockport	59,553	Warrington †	41,452
Walsall †	58,795	Stockton †	41,015

* Gas supply also in private hands. † Tramways owned by private companies.
‡ No public receipts from markets (presumably private or non-existent).

It is impossible to compute what is lost by the inhabitants of these towns, but a few statistics of the profit made by the water companies can be given.

1887–8.	Cost of works.	Receipts.	Expenditure.	Profit.
London (8 companies)	£14,140,434	£1,726,276	£648,950	£1,077,326
Bristol Waterworks Company	1,051,032	80,559	20,153	60,406
Sunderland and South Shields Water Company	584,189	55,829	14,106	41,723
Newcastle and Gateshead Water Company	1,111,547	84,620	19,331	65,289
	16,887,202	1,947,284	702,540	1,244,644

This amounts to nearly 7½ per cent. upon the whole nominal capital of these eleven companies.

Many companies supplying other towns are levying a tribute upon the inhabitants, enabling them to pay 10 per cent. dividend upon their ordinary stock. Among these are the companies supplying the undermentioned towns:

PLACES WHERE THE WATER COMPANIES NORMALLY DIVIDE AT LEAST 10 PER CENT. DIVIDEND ON PART, AT ANY RATE, OF THEIR ORDINARY STOCK.

Accrington.	Chatham.	Maidstone.
Aldershot.	Chesterfield.	Mold.
Altrincham.	Gosport.	Monmouth.
Barnstaple.	Grantham.	Portsmouth.
Blaenavon.	Ipswich.	Rhondda Valley.
Bournmouth.	Kilmarnock.	Rochester.
Brightlingsea.	Lewes.	Shepton Mallet.
Cambridge.	Luton.	Winchester.

Notwithstanding the rapid "municipalisation" of the water supply which has been going on all this generation, the tribute derived by private capitalists from this necessary public service had not, up to 1883–4, shown signs of diminution. Later particulars are not available, but the following figures will be of interest:

Income from waterworks assessed to income tax from 1874–5 to 1883–4, inclusive.

Year.	London.	Rest of England and Wales.	Total England and Wales.	Scotland.	Ireland.	Total United Kingdom.
1874–5	£654,934	£1,007,092	£1,662,026	£195,038	£11,940	£1,869,004
1875–6	694,008	1,074,943	1,768,951	183,278	13,175	1,965,404
1876–7	744,242	1,132,788	1,877,030	116,770	13,918	2,007,718
1877–8	752,688	1,273,566	2,026,254	123,801	16,551	2,166,606
1878–9	789,502	1,287,925	2,077,427	134,821	15,448	2,227,696
1879–80	827,003	1,369,860	2,196,863	135,671	17,267	2,349,801
1880–1	858,577	1,629,586	2,488,163	143,536	21,445	2,653,144
1881–2	905,710	1,712,952	2,618,662	153,672	19,949	2,792,283
1882–3	969,589	1,756,323	2,725,912	239,316	22,330	2,987,558
1883–4	1,009,928	1,727,827	2,737,755	246,379	24,671	3,008,805

It will thus be seen that the metropolis accounted for one-third, in financial importance, of the waterworks remaining in private hands six years ago. To-day the proportion would be considerably increased.

The total gross revenue from water consumers in the United Kingdom probably amounts to approximately six millions sterling, and the expenditure on the service to a million and a half. Three millions sterling go annually to private capitalists, and public authorities make another million and a half of profit which goes into the pockets of the municipal stockholders. About one-third of our waterworks capital is "municipalised," but more than a third in number of the separate waterworks.

The construction of gas works, their operation and management, the quality of their product as well as its sale, form a totally different subject from the one under consideration. The same applies to waterworks and with certain qualifications to tramways. I may be

permitted, however, to remark that compared with what I have seen, similar enterprises in the United States hold their own very well. The waterworks systems excepted, we are well in advance. Our progress in the art of illumination, both by gas and electricity, gives us a prestige not enjoyed by any other country in Europe. I have seen the tramways in nearly every large city on the European continent, but nowhere was I enabled to admire the marvellous perfection of street-car service exhibited in the city of Saint Louis.

WILLIAM R. SMYTH,
Commercial Agent.

UNITED STATE COMMERCIAL AGENCY,
Huddersfield, November 18, 1891.

CHINA TEA AND TEA TRADE.

REPORT BY CONSUL BEDLOE, OF AMOY.

By whom and when the use of tea for drinking purposes was discovered is lost in antiquity. The famous herb is referred to in the Chinese annals as far back as 2000 B. C., at which period it was cultivated and classified almost as completely as to-day.

One ancient legend says that its virtues were learned by accident by a Chinese monarch, King Shên Nung, "The Divine Husbandman," who flourished forty centuries ago, and who, in boiling water over a fire made from tea-branches on which the leaves still hung, allowed some of the latter to fall into the pot.

During the reign of Shên-Nung-She, B. C. 2737 to 2696, he not only discovered the curative virtues of plants but also first fashioned timber into ploughs and taught the people the art of husbandry, and instituted the practice of holding markets for the exchange of commodities.

Tea was highly esteemed in nearly every ancient Asiatic city near the sea and was used as a royal gift from the Chinese monarchs and great merchants to the potentates of the East. To the Rajahs of Kandy, the Sultans of Ceylon, the Shoguns and Daimios of Japan, were sent gifts of carefully selected samples of the leaves packed in precious boxes. Some of these presents must have been worthy of a crown. One is thus recorded: "It weighed 40 catties (about 50 lbs.), and each leaf was perfect in color, size, and age. The leaves were divided into parcels of five maces each (a little over half an ounce), and each parcel was wrapped in fine white paper, and these in turn wrapped in pure silver foil and put into little bags made of bright colored silk. A hundred bags were placed in a porcelain jar, whose lid was securely fastened and sealed, and each jar was protected by a box of camphor-wood trimmed with silver hinges and ornaments."

In the list of the princes to whom these presents were made are many whose identity would be otherwise lost to history. From the old writings many curious facts are thus obtainable. Among other things it appears that Korea was at one time a formidable power, military and naval; that the Japanese at long intervals changed from peaceable neighbors into marauders and free-booters; that Manipur, Assam, Burmah, and Tong-Quin at various epochs were strong belligerent communities in the far east; that Cambodia and Cochin-China were populous, rich, and warlike civilizations, where now the tiger prowls and the serpent glides; that the island of Ceylon was the scene of brilliant and brave dynasties which followed one another like the waves on the shore, and that at times the Tartar nomads who live to the north, northwest, and west of Asia, were gathered into great armies and nations by unknown Tamerlanes and Zenghis Khanns. The presents of tea from the Flowery Kingdom to kingly neighbors are humble monuments to the wash of dynasties and empires.

Before the time of Confucius it had supplanted every other fluid for assuaging thirst. Its sanitary excellence was appreciated by Shên Kung, a celebrated scholar and philosopher, who said: "Tea is better than wine, for it leadeth not to intoxication, neither does it cause a man to do foolish things and repent thereof in his sober moments. It is better than water, for it doth not carry disease, neither doth it act as a poison as doth water when the wells contain foul or rotten matter."

That the use of tea was universal is borne out by one of the maxims of Confucius, the wisest man of China, when he said: "Be good and courteous to all, even to the stranger from other lands. If he say unto thee that he thirsteth, give unto him a cup of warm tea without money and without price."

At the time of Buddha, China was enjoying a large foreign commerce in tea. It was carried by her junks to Japan, Korea, Tong-Quin, Anam, Cochin, Burmah, Siam, India, Ceylon, Persia, and Arabia. According to one record it was sent to a great flat river country west of Arabia, which must have been Egypt, from which it was separated by a long and very torrid sea. It was carried by caravans to Manchuria, Mongolia, Kuldja, Tartary, Thibet, Persia, and Northern India. This commerce flourished for centuries and culminated in the dynasties of Hung-Fung and Tung-Chi about 1600 A. D.

From that time there was a slow but steady decline to the reign of the present sovereign, Kwang Hsii. In the past twenty years the decline has been something terrible, the trade to-day being scarcely one-quarter of what it was in 1870. Nor is the outlook promising to the tea-planter and patriot in any respect. In every district the in-

dustry is on the verge of bankruptcy; the demand from abroad yearly diminishes; the people themselves are taking to other beverages; while the taxation necessary to government, which in the former years of prosperity was a mere trifle, now threatens an utter extinction of the tea trade of China.

There are many interesting facts to be gleaned from the old books in relation to the tea trade. For example, there is no doubt that China was far more liberal in her commercial policy when ruled by her own people than she was after the Manchu Conquest, 1641 A. D. Before that time are many allusions to traders and merchants from various countries, and to the exportation and importation of goods of all sorts. I find references to bronze works and porcelain from Japan, weapons and pottery from Corea, cloths and other woven tissues from Indo-Chinese territories, and ivory and tortoise shell from Ceylon and Arabia.

The transactions were on a large scale and required quite a navy of junks and cargo-boats. In several instances are references which can only be explained upon the theory that the mercantile classes of the East had established some system of marine insurance. After the Manchu Conquest, there was a very great change. Foreign trade seemed to drop out of existence, as it were, and foreign traders lost all status. This condition of affairs continued for nearly two centuries.

In reading between the lines of the tea trade, the most striking fact is the profound change wrought in Chinese life by the influence of Europe, and especially the European steamer in the present century. It is a peaceable revolution. In the early part of the eighties the great cities were in the interior and only a few communities on the sea-board, and these of no political importance. To-day everything is just the opposite. Canton, Kowloon, Hong-Kong, Swatow, Amoy, Takow, Shanghai, and the Yangtse river cities are drawing to themselves the trade and wealth of the empire, and the old inland cities are visibly falling into ruin.

Peking, the present, and Nanking, the ancient capital, are scarcely half as large as they were a hundred years ago. They display all the symptoms of decay and death. In the seaports the population is comprised chiefly of "Young China," energetic, enterprising, and commercial, and offers a marked contrast to the conservative and literary communities of the interior. From the former will come the rulers and policies of the next century. Even to-day their power is so great as to be a stumbling block to the Mandarins and a menace to the imperial government. The tea market in Amoy, and, I am informed, in nearly all the tea cities of China, opens according to the agreement of the dealers and speculators, who either hold it back or rush it forward, according to circumstances. This

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From that time there was a slow but steady decline to the reign of the present sovereign, Kwang Hsii. In the past twenty years the decline has been something terrible, the trade to-day being scarcely one-quarter of what it was in 1870. Nor is the outlook promising to the tea-planter and patriot in any respect. In every district the in-

their own goods put up in imitation of the Formosa article. The new law compelling importers to brand each package with the name of the place it comes from has struck a blow at the evil and given much satisfaction to merchants in China. It may be questioned, however, if the statute goes far enough, and if further legislation is not necessary. I have had the opportunity of studying tea culture in Ceylon and Formosa, and find there is great room here for the improvement and cheapening of the curing processes. The Chinese still cure the leaf in small bamboo baskets over charcoal fires in the same way as did their ancestors thirty centuries ago. The new processes, invented chiefly if not solely, by Englishmen, use copper, iron, or porcelain plates, hot air, and more or less labor-saving machinery. The result is a great saving in time and labor, and the production of a very uniform article. The Chinese object to the new processes on the ground that they destroy the boquet of the fine leaf and add an unpleasant metallic flavor to the tea. They make the further objection that the new system would throw thousands out of employment, and so injure the nation.

Amoy teas are still on the downward path. Last year (1890) the output was 50,000 half chests, and the average price $13 per picul, or 10 cents per pound. This year (1881) it will not exceed 48,000 half chests in quantity, or $12.50 per picul. When it is remembered that Amoy at one time was the greatest tea country in the world, and exported as high as 500,000 half chests (10 times its present production), the decay of the industry is easily realized. This tremendous change is due, I regret to say, almost entirely to dishonesty and rapacity on the part of the trade, native and foreign, and especially the European hongs. At one time the Amoy teas were excellent and the tea districts correspondingly prosperous. The tea planters fell into debt to the usurers and merchants, and were so fleeced that they lost all interest in their calling. The quality of the leaf fell off, as did the quantity. Then, to carry out contracts as to specific amounts, the leaf was adulterated with other leaves, with sweepings, and even in some instances with dirt. By degrees its reputation fell until it became known as the vilest and filthiest compound in the market. To-day no tea drinker knowingly uses it.

In those days Formosa did a business of 25,000 to 50,000 half chests per annum, when Amoy was doing 400,000. Now the figures are exactly reversed

The decadence of the Amoy industry has taught one good lesson. It showed the usurers that Amoy did not and could not monopolize the culture of tea. To-day they are afraid to apply the screws to the full limit to the Formosa planters, knowing that if they do the trade will die off as it did in Amoy and will revert to Japan, Corea, Ceylon, and India. Further than this, the countries named are

encroaching every year upon the China tea export trade. Thus, for example, in 1878 the exportation of tea from Ceylon was 25,000 pounds; this year (1891) the estimate is 61,000,000 pounds, while the consumption of China tea in England fell from 125,000,000 pounds in 1879 to 61,000,000 pounds in 1889.

Such a change in trade so alarmed the Chinese merchants that five years ago the Chamber of Commerce at Shanghai sent a commission to Ceylon and India to investigate. The commissioners returned, reporting that if China did not send better tea from her shores and open her gates to the foreigner with his machinery, she must eventually lose her export trade.

The same state of affairs, though not upon so large a scale, exists in regard to India, Assam, and Japan. Each of these is competing with this empire, and depriving it by degrees of its commerce. The condition of affairs is well illustrated by two grocery circulars that lie before me. One is of New York, in 1868, and announces the merits of Hyson, Oolong, Souchong, Gunpowder, and English Breakfast. The other is of Philadelphia, in 1891, and refers in similar language to Ceylon, India, Assam, Chinese, and Japanese teas. There could hardly be a better practical commentary upon the decadence of a great industry.

Tea culture is assuming large proportions outside of the Chinese boundaries. The Spanish authorities have tried to raise it in the Philippines; the Dutch in Sumatra, Java, and Borneo; the English in the Straits Settlements, and the French in Cochin-China. Nearly all these experiments have been failures; the only successes reported being from mountain countries, where there was moisture, good soil, and not an excess of warmth. The Dutch have turned this discovery to account, and now confine their efforts to the high mountainous districts with which their colonial possessions abound. While good tea has been produced in a number of places under these auspices, the quality has been very inferior to the fine growths of Formosa and Foo-Chow.

The reports from other tea districts of China are all assuring. The Congous, which come from north of Amoy, are certainly equal in quantity and quality to those of last year, and probably a trifle better. The Pekoes, from the south, are up to the average. The northern teas are reported as better than ever. This will not affect the American market, as they are bought up in advance by the Russian merchants and command prices that seem the height of extravagance. Chops running from $100 to $300 per picul are not uncommon, while now and then extra fine pickings find customers who pay from $10 to $50 a pound. In Russia and Japan, and above all in China, there are epicures more dainty as to their daily tea than wealthy connoisseurs at home are over their Madeira and

Burgundy. The governor of Formosa pays from $10 to $20 per pound for his tea. When I dined with him I justified the extravagance. The perfume of the tea filled the palace, and the exquisite, incomparable flavor lingered upon my palate hours after the meal was over. After drinking such tea the finest comet-growth of Burgundy seems coarse and savage.

Tea drinkers at home may revel in the fact that they will have better tea in 1891–'92 than they have had for a long time. They are the only Americans who derive any benefit from the tea industry. At one time it poured a stream of wealth into our land, but somehow or another we grew careless and allowed the channel to be diverted to other nations. The spectacle is very painful to a patriot. The heavy capital with which the crops are raised, the experts who taste, and the dealers who buy the leaf, the lead in which it is cased, the steamers in which it is carried, the companies which insure it, and the banks which attend to the financiering are all foreign, chiefly British. When we pay for it in money, we send the amount to be shaved in London; and when we pay in kerosene, flour, and manufactures, we pass them through almost the same line of hands from New York to Amoy.

The American people will spend over $11,000,000 for Chinese tea in 1891–'92. Of this vast sum the planters will receive $3,000,000, the tradesmen and home dealers $2,500,000, and foreigners, with no interest in America or China, the handsome balance of $5,500,000! Why cannot we have some of it? There is the same field here to-day as in the time of Low, Grinnell, Howland, and Train, when we were the owners of the China trade. Why do not our business men take advantage of the opportunity?

A few words of advice to tea-drinkers may not be *malapropos*. When I left the United States I was considered a fair judge of tea. Now, after having visited Ceylon, Formosa, and the Amoy district, I find I knew nothing of tea. We Americans don't know the first principles of making tea. The delicate leaf should never touch metal. It should be kept in paper, wood, glass, or porcelain. To make it, put a small quantity in a porcelain cup, fill the latter with boiling water, cover it up with a porcelain saucer and let it stand three minutes.

Then, if you desire to be an epicure, drink only the upper layer of the golden liquid, throw the rest away, rinse the cup, and begin drawing *de novo*. Never use sugar any more than you would sweeten Chamberlin or pour molasses into Mumm's extra dry. Do not use milk. It ruins the flavor of the tea, and the combination injures the stomach. The cloudiness produced by adding milk to tea arises from the action of the tannin upon the casein, and is, chemically speaking, pure leather.

Above all things, do not boil tea. The heat drives off the perfume, spoils the flavor, and extracts the tannin, the astringent principle. If the boiling be done in a tin or iron pot the tannin attacks the metal and makes the liquid black. This fluid is simply diluted ink.

Never let the tea stand except in a tightly closed porcelain pot. Standing changes it from a delicious, wholesome beverage into an ill-tasting and bitter liquor. Better make it in small quantities, and make it often. In summer, when you want to cool off quickly, sip the tea boiling hot, with a slice of previously-peeled lemon, or nicer still, of orange without the rind, floating in it. In winter, especially when you have a cold and require a sudorific, add a wineglass full of arrack to it and drink it down as hot as you can stand it. It will bring out a profuse perspiration when punch or hot scotch fails to thaw you out.

Beware of green tea! It is an abomination and a fraud. In the first place it is the unripe leaf and bears the same relation to the real article that the green does to the ripe peach. The green tea of commerce derives its rare color from being cured, or rather killed, on dirty copper pans, from being mixed with weeds and shrubs, from being stained with indigo and chrome-yellow, from being colored with verdigris, grass juice, or chlorophyl. Every green dye known to commerce has been used to produce that much admired but death-dealing color, excepting it may be Paris green. As soon as the use of that poisonous substance will give a profit of a cent a pound, no doubt it will be liberally used by the mercenary Mongolian merchant and the much more mercenary cultured European tea trader.

I will venture the statement that there is no fine tea in the United States. What goes to our country is the cheap stuff used here by the coolies and jail inmates.

When an American housekeeper pays $1 per pound for her Oolong or English Breakfast, she is buying what is sold here for 25 cents. No really good tea is sold here for less than $1 per pound by the wholesale. If laid down in the market at home it could not be sold for less than $1.75.

The tea-plant is very sensitive. It flourishes best on a mountain side, where it is neither very warm nor cool; where the soil is dry but the rains and dews are frequent; where the force of the wind is broken by adjacent woods or hills; where there is a maximum of sunlight, and, according to the Celestials, of moonlight; and where the surrounding ground is kept free from weeds or other vegetable growths.

There are farms in Formosa, Fo-Kien, and other tea districts where these conditions exist unchangingly, whose tea crop is as famous and distinctly known in the eastern world as the various chataux of France are to the wine experts of Europe. Just as the millionaires of Europe control certain vineyards, so do the million-

aires of the flowery kingdom control tea plantations, whose annual output is worth a king's ransom.

Another point of the many we have to learn from the Chinese is the proper mode of packing the leaf. That which goes to America is dumped as soon as it is "fired," burning hot into a lead-lined box, the lead is soldered, and the airtight coffin is sent around the globe in the hot hold of a steamer. The tea sweats and undergoes many changes, which alter its flavor altogether, and vitiate its quality.

The Mongolian packs the pobrest kind in strong paper packages, and these in turn in mortuary lead; the better kind in soft tin paper covered boxes; still better ones in silver foil inside of 1-pound cases, made of split, sun-dried bamboo, and the best in porcelain jars and vases. He packs in eighths and quarters of a pound, so that if a few leaves are improperly treated or not cured they will not contaminate much surrounding tea.

The Russians compress the tea into bricks, or cover it with silver foil and many paper wrappings, or else put it into glazed jars.

The principle is the same—the subdivision of the tea and the prevention of risks attending larger packages or in bigger bulk, such as heating, sweating, and molding.

This principle we have yet to learn and apply, and will be fully rewarded by the exquisite pleasure to be found in a cup of truly fine tea. The color is a delicate gold; each leaf unfolds into a perfect olive oval; its fragrance, delicate and yet penetrating, dainty but distinguishable above all other perfumes.

EDWARD BEDLOE,
Consul.

UNITED STATES CONSULATE,
Amoy, China.

TRAMWAY WAGES IN ENGLAND.

REPORT BY CONSUL TIBBITS, OF BRADFORD.

I have the honor to report for the information of the Department, certain facts as to the hours of labor and wages of employés of the Bradford Tramways and Omnibus Company, Limited, made public at a meeting held by said employés November 13, 1891, for the purpose of effecting an organization to protect their interests.

According to statements made at this meeting, the accuracy of which cannot be questioned, it appears that on the horse section of the company's system the hours of labor are from fourteen to fifteen and one-half hours a day and will average fully fifteen hours. The first car goes out at 8 a. m. and returns to the terminus at 11 p. m., and an additional half hour is occupied in making it ready to go out and in bringing it in on the completion of the last trip. On this section the drivers work on alternate Sundays, and the conductors seven days in each week, a deduction being made from their wages for any Sunday that they are off duty.

Stablemen are on duty from fifteen to sixteen hours per day two days in the week, and thirteen hours per day during the remainder of the time.

Omnibus drivers work six days in a week, five days of thirteen hours and one day of fifteen hours.

Conductors of steam cars are on duty from fifteen to seventeen and one-half hours per day.

No time, in any case, is allowed for meals, and as the interval between trips is rarely more than five minutes, and often merely nominal, the conductors, as a rule, take their meals in the cars while in motion.

The wages paid are as follows: Drivers, 4 shillings (97 cents) per day; conductors on single-horse cars, 12 shillings ($2.92) per week; on two-horse cars, 17s. 6d. ($4.20) to £1.10 ($5.10) per week, with a corresponding reduction when off duty on Sunday; stablemen, 3 shillings (72 cents) per day; omnibus drivers, £1.10 ($5.10) per week; steam-car conductors, £1.10 ($5.10), subject to deductions on account of fines for petty offences.

The tramways and omnibus company operate their system under a lease from the Bradford corporation. On the expiration of the lease, it is probable that the corporation will assume control of the tramways, institute needed reforms in their management, and make them a considerable source of public revenue.

JOHN A. TIBBITS,
Consul.

UNITED STATES CONSULATE,
Bradford, November 17, 1891.

WAGES IN BOHEMIA.

REPORT BY CONSUL HAWES, OF REICHENBERG.

I have the honor to show in the following concise tables the wages paid in every trade that exists in this consular district.

In order to condense the matter as much as possible, the tables have been made very comprehensive, viz: "Manufactures of wood, bone, rubber," etc., embrace sawmills, wood working, cork cutting, cabinet making, the manufacture of horn and vegetable ivory buttons, elastic weaving, etc.

The figures here given show the wages paid in 1,131 establishments to nearly 100,000 working people.

By the term "youthful operators" is meant children under 16 years of age.

The average weekly wages of adults then in this consular district are florins 6.13 ($2.57) for males and florins 3.72 ($1.56) for females. The amount of wages paid out weekly in this consular district, as will be seen by the recapitulation, amounts to nearly half a million florins.

*Bohemian wage tables.**

Number of persons employed.	No. of establishments.	Males.				Females.				Together.			
		No. of employés.	Amount of weekly wages.	Average wages with youthful operators.	Average wages without youthful operators.	No. of employés.	Amount of weekly wages.	Average wages with youthful operators.	Average wages without youthful operators.	No. of employés.	Amount of weekly wages.	Average wages with youthful operators.	Average wages without youthful operators.
			fl. kr.	fl. kr.	fl. kr.		fl. kr.	fl. kr.	fl. kr.		fl. kr.	fl. kr.	fl. kr.
Metal and metal wares:													
Less than 50	13	260	1,619 57	6 23	6 59	34	126 85	3 73	3 75	294	1,746 42	5 94	6 26
50 to 100	12	497	3,399 52	6 84	6 98	280	789 50	2 82	2 90	777	4,189 02	5 39	5 64
100 to 400	10	1,472	11,882 72	8 07	8 54	530	1,675 93	3 16	3 37	2,002	13,558 65	6 78	7 38
Over 400	1	981	11,239 93	11 45	11 72	11	80 93	7 36	7 36	992	11,320 86	11 41	11 67
Total	36	3,210	28,141 74	8 77	9 24	855	2,673 21	3 13	3 29	4,065	30,814 95	7 58	8 10
Machines, tools, instruments, means of transportation, etc.:													
Less than 50	17	374	2,462 23	6 58	6 92	19	64 80	3 41	3 42	393	2,527 03	6 43	6 76
50 to 100	8	517	3,575 88	6 92	7 47	28	88 20	3 15	3 15	545	3,664 08	6 72	7 22
100 to 400	1	121	687 15	5 68	6 00					121	687 15	5 68	6 00
Over 400													
Total	26	1,012	6,725 26	6 65	7 05	47	153 00	3 26	3 27	1,059	6,878 26	6 50	6 87
Stone, earth, clay, and glass:													
Less than 500	114	1,565	9,595 67	6 13	6 25	460	1,363 04	2 96	2 99	2,025	10,958 71	5 41	5 53
50 to 100	15	605	4,051 85	6 70	7 03	161	524 53	3 26	3 27	766	4,576 38	5 97	6 25
100 to 400	20	2,558	17,378 98	6 79	7 19	801	2,845 00	3 55	3 70	3,359	20,223 98	6 02	6 42
Over 400	1	566	4,617 60	8 16	9 00	98	413 00	4 21	4 22	664	5,030 60	7 58	8 40
Total	150	5,294	35,644 10	6 73	7 06	1,520	5,145 57	3 39	3 45	6,814	40,789 67	5 99	6 29

Wood, bone, rubber, guttapercha, etc.													
Less than 50	39	562	3,210 78	5 71	5 79	75	264 10	3 52	3 69	637	3,474 88	5 46	5 57
50 to 100	4	209	1,246 80	5 97	6 00	63	204 20	3 24	3 30	272	1,451 00	5 33	5 45
100 to 400	9	843	4,815 84	5 71	6 01	560	1,839 92	3 29	3 47	1,403	6,655 76	4 74	5 05
Over 400	1	417	2,969 50	7 12	7 18	391	1,602 89	4 10	4 11	808	4,572 30	5 66	5 69
Total	53	2,031	12,242 92	6 03	6 20	1,089	3,911 02	3 59	3 73	3,120	16,153 94	5 18	5 37
Leather, hides, hair, feathers, etc.:													
Less than 50	16	272	1,740 69	6 40	6 56	8	30 60	3 82	4 03	280	1,771 29	6 33	6 50
50 to 100	1	51	358 30	7 03	7 29	------	------	------	------	51	358 30	7 03	7 29
100 to 400	1	319	1,725 97	5 41	------	30	97 09	3 24	3 32	349	1,823 06	5 22	5 24
Over 400	------	------	------	------	------	------	------	------	------	------	------	------	------
Total	18	642	3,824 96	5 96	6 03	38	127 69	3 36	3 46	680	3,952 65	5 81	5 90
Textiles and upholstery:													
Less than 50	144	1,989	11,711 79	5 89	6 03	915	3,207 25	3 51	3 55	2,904	14,919 04	5 14	5 27
50 to 100	79	3,572	20,342 46	5 69	5 85	2,260	8,092 12	3 58	3 65	5,832	28,434 58	4 87	5 03
100 to 400	130	12,475	67,364 81	5 40	5 81	13,607	50,616 22	3 72	3 88	26,082	117,981 03	4 50	4 79
Over 400	44	14,303	75,521 37	5 28	5 48	17,909	66,040 85	3 69	3 78	32,212	141,562 22	4 39	4 45
Total	397	32,359	174,440 43	5 41	5 61	34,691	127,956 44	3 69	3 78	67,030	302,896 87	4 52	4 68
Clothing and millinery:													
Less than 50	8	69	329 65	4 78	4 78	91	315 85	3 47	3 79	160	645 50	4 03	4 13
50 to 100	5	119	651 57	5 48	5 61	241	852 95	3 54	3 76	360	1,504 52	4 18	4 42
100 to 400	4	373	2,504 51	6 71	6 71	381	1,331 29	3 49	3 56	754	3,835 80	5 09	5 17
Over 400	------	------	------	------	------	------	------	------	------	------	------	------	------
Total	17	561	3,485 73	6 21	6 22	713	2,500 09	3 51	3 62	1,274	5,985 82	4 70	4 84

* The Austrian florin in which the wages are computed, equals 42 American cents. There are 100 kreutzers in a florin.

Bohemian wage tables—Continued.

Number of persons employed.	Number of establishments.	Males.				Females.				Together.			
		Number of employés.	Amount of weekly wages.	Average wages with youthful operators.	Average wages without youthful operators.	Number of employés.	Amount of weekly wages.	Average wages with youthful operators.	Average wages without youthful operators.	Number of employés.	Amount of weekly wages.	Average wages with youthful operators.	Average wages without youthful operators.
			fl. kr.	fl. kr.	fl. kr.		fl. kr.	fl. kr.	fl. kr.		fl. kr.	fl. kr.	fl. kr.
Paper:													
Less than 50	29	461	2,492 45	5 41	5 52	164	479 85	2 93	3 01	625	2,972 30	4 75	4 91
50 to 100	6	198	1,095 34	5 53	5 71	153	463 69	3 03	3 13	351	1,559 03	4 44	4 66
100 to 400	7	991	6,263 01	6 32	6 37	582	2,085 05	3 58	3 65	1,573	8,348 06	5 31	5 41
Over 400	1	260	1,483 23	5 58	5 60	312	1,039 26	3 33	3 38	578	2,522 49	4 36	4 43
Total	43	1,916	11,334 03	5 92	6 00	1,211	4,067 85	3 36	3 44	3,127	15,401 88	4 93	5 05
Food factories:													
Less than 50	242	1,643	11,274 22	6 86	6 91	62	190 46	3 07	3 15	1,705	11,454 68	6 72	6 79
50 to 100	10	602	3,855 88	6 41	6 47	128	428 92	3 35	3 38	730	4,284 80	5 87	5 94
100 to 400	26	4,554	22,395 71	4 92	5 01	1,000	3,016 56	3 02	3 03	5,554	25,412 27	4 58	4 67
Over 400	2	753	4,371 04	5 80	5 83	164	543 80	3 32	3 37	917	4,914 84	5 36	5 43
Total	280	7,552	41,896 85	5 55	5 64	1,354	4,179 74	3 08	3 12	8,906	46,076 59	5 17	5 27
Chemicals:													
Less than 50	52	551	3,850 04	6 99	7 03	114	392 82	3 45	3 52	665	4,242 86	6 58	6 46
50 to 100	2	136	1,009 18	7 42	7 46	8	30 72	3 84	3 84	144	1,039 90	7 22	7 29
100 to 400													
Over 400	1	1,396	11,169 48	8 00	8 13	105	391 16	3 72	3 78	1,151	11,560 64	7 70	7 89
Total	55	2,083	16,028 70	7 70	7 79	227	814 70	3 59	3 65	2,310	16,843 40	7 29	7 41

Building trades:													
Less than 50	28	451	2,837 10	6 29	6 54	8	25 88	3 23	3 23	459	2,862 98	6 24	6 34
50 to 100	3	198	1,474 20	7 45	7 45	3	10 50	3 50	3 50	201	1,484 70	7 39	7 34
100 to 400	1	95	662 50	6 97	7 11	12	48 00	4 00	4 00	107	710 50	6 64	6 75
Over 400													
Total	32	744	4,973 80	6 69	6 77	23	84 38	3 67	3 67	767	5,058 18	6 59	6 67
Printing and art productions:													
Less than 50	21	254	1,779 19	6 97	7 63	32	110 25	3 44	3 52	286	1,880 44	6 57	7 20
50 to 100	2	63	384 90	6 11	7 09	59	189 30	3 21	3 26	122	574 20	4 71	5 12
100 to 400	1	166	1,348 25	8 12	8 98	98	344 10	3 51	3 60	264	1,692 35	6 41	7 02
Over 400													
Total	24	483	3,503 34	7 25	8 04	189	643 65	3 41	3 47	672	4,146 99	6 17	6 75
Recapitulation:													
Less than 50	723	8,451	52,894 38	6 26	6 39	1,982	6,571 75	3 31	3 36	10,433	59,466 13	5 69	5 84
50 to 100	147	6,767	41,445 88	6 12	6 31	3,384	11,674 63	3 45	3 53	10,151	53,120 51	5 23	5 43
100 to 400	210	23,967	137,029 45	5 72	5 95	17,601	63,899 16	3 63	3 73	41,568	200,928 61	4 83	5 02
Over 400	51	18,682	111,372 15	5 96	6 16	18,990	70,111 80	3 70	3 79	37,672	181,483 95	4 82	4 99
Total	1,131	57,867	342,741 86	5 92	6 13	41,957	152,257 34	3 63	3 72	99,824	4,494,999 20	4 96	5 15
Failed to report										2,397			
										102,221			

JOHN B. HAWES,
Consul.

UNITED STATES CONSULATE,
Reichenberg, November 5, 1891.

TRADE OF RIGA—1890 AND 1891.

REPORT BY CONSUL BORNHOLDT.

The import trade from the United States to this port and the interior of the country has not undergone any notable change during this year, and the principal articles consist, as formerly, of rosin, cotton, lard, leather, agricultural implements, hardware, tools, and like goods in smaller quantities, although in most cases it could be counted upon the American manufacturer's ability to compete with the German and English made goods.

It is difficult to give the amount of the imports from the United States, as some of the products and manufactures lose their individuality on the way. For instance, rosin is the only article that comes in full cargoes in vessels arriving direct from the United States, whereas the other goods are all brought by vessels from America to an English port, Hamburg, or Copenhagen, and transshipped there in a steamer to this port. In consequence, this ship's whole cargo is registered in the statistics as coming from England, Germany, or Denmark, although a large part thereof may be products and manufactures from the United States.

The value of declared exports from this consular district to the United States during the year ended September 30, 1891, amounted to $87,952.38, which, compared with the previous year, $95,856.36, shows a decrease of $7,903.98.

These exports include such articles as hemp, hides, hair (cattle and horse), leather, skins, liquors, books, albumen, etc.

During the year 1890 this port was entered by 2,037 steamers and sailing vessels, measuring about 950,000 registered tons, and from January 1 up to date 2,107 steamers and 485 sailing vessels have arrived carrying the English, German, and Scandinavian flags; but I am sorry not to have to report the visit of any vessel belonging to the United States.

These vessels were chiefly employed in the trade between this port and the Scandinavian countries, Great Britain, Germany, Holland, Belgium, France, and a few to Spain and the Mediterranean ports. Freight rates have been on the same low point as the year before, and ship owners have not been deriving much profit by keeping their vessels running.

The value in 1890 of imports and exports was as follows: Imports, $11,762,808; exports, $26,664,740; an increase of $322,442 in the imports, and a decrease of $1,153,247 in the exports, as compared with the previous year. The principal export articles from this port are cereals of all kinds, such as wheat, rye, barley, oats, hemp and

linseed oil-cakes, flax, hemp, tow, wood, deals and battens, baulks, sleepers, lath-wood, etc. The navigation to and from this port was closed on account of ice in Riga bay from the 12th January to the 14th March, when the steamers succeeded in forcing their way through the ice.

The crops in these districts have been below average of wheat, barley, and oats, and the rye crop has been exceedingly deficient, so that the prices for rye and wheat have been on the same level. As rye is the principal breadstuff in Russia, and the crop thereof in the eastern provinces failed entirely, the Russian government ordered a prohibition of the exports of rye, rye flour, and bran from all Russian ports after the 15th August this year. This caused a rush to the seaports of all rye available for shipment, and in the fortnight before the prohibition went into effect there was shipped from this port alone about 40,000 tons of rye, valued at $1,800,000. The export of oil-cakes is also prohibited from the 15th October this year.

The distress in those parts of Russia where the crop failed seems to be very serious, and famine is anticipated. It is also expected that larger tracts of land will remain uncultivated this season for want of seed-corn. In consequence, distribution of money and grain on the part of the government is taking place, and collections are also made throughout the Empire for the sufferers. At the same time all facilities are offered them; for instance, free passage on the railways to other places where it would be possible for them to find work or subsistence.

The export of grain in this season may, therefore, be less than in previous years.

N. P. A. BORNHOLDT,
Consul.

UNITED STATES CONSULATE AT RIGA.
October 19, 1891.

COMMERCE AND PRODUCTS OF SIVAS.

REPORT BY CONSUL JEWETT.

The lines of railway which are now under way eastward from Angora and southward from Samsoon will meet at Sivas. As these railways will open up new and extended markets for foreign trade, some details as to the character of the country may be of interest, especially to those interested in extending American trade abroad. For this purpose the sanjak of Sivas may be taken as fairly representative of the parts of Asia Minor to be traversed by the new lines of railway, and this report will therefore be confined to it.

The sanjak, a political division, occupies the southern portion of the *vilayet* or province of the same name. The city of Sivas is the capital of the province.

Population.—The population of the sanjak is estimated at about 500,000. Of these about 410,000 are Musselmans, 60,000 Armenians, and the rest Greeks. The Musselman population includes several races such as Circassians, Koords, Turcomans, and Kizelbashes.

Climate.—It would be difficult to name another district of Asia Minor of the same area (34,450 square kilometers) possessing so varied a climate. The northern and eastern parts consist of high plateaus with an elevation of 4,000 to 5,000 feet above the sea. There the winters are of course severe and the summers short. The average winter temperature is about zero Fahr., and sometimes gets as low as 20 degrees below zero. The average summer temperature in these elevated districts is about 80 degrees. Snow usually appears the latter part of October and remains until March. Snow storms are not infrequent as late as the beginning of May. The atmosphere is very clear and, in general, the climate a salubrious and healthful one. The city of Sivas, situated at an elevation of 4,500 feet above the sea, has a somewhat rigorous but healthful climate, and owing to its elevation and the abundance of streams which flow through it, is free comparatively from the fevers and epidemics which are common to most Asiatic cities.

Agriculture.—All the rural population of the sanjak is engaged in agriculture. The principal productions are wheat, rye, barley, and oats.

The approximate production is as follows for an average year:

Wheat	2,520,490 bushels.
Barley	1,102,900 "
Rye	228,880 "
Oats	2,000 "

The production this year is considerably larger than the above, but the figures are not yet obtainable.

The soil is in general alluvial, the surface rolling. The implements used are of the rudest; a sharpened stick for a plow, a log for a harrow, and the drag lined with flints for threshing machines. Within the last two or three years, however, considerable advance has been made in the use of modern plows, and with the example and incentive of the "Model Farm," recently established at Sivas, where modern agricultural machinery, largely American, is in use, considerable progress in this regard may be expected in the near future.

The wheat grown is the "soft" variety, and does not compare in quality with that grown, for example, at Amasia and Marsivan, in the same province. Ploughing is done at nearly all seasons of the

year. Harvesting commences the latter part of August and continues till October.

The soil is very inefficiently tilled, and little effort is made to get the most possible out of the land. Farmers are satisfied if they get enough for their own use and to pay taxes. Owing to the lack of means of transportation there is little encouragement to raise grain for export. Practically, a poor harvest is just as good for the farmers as an abundant one, as the surplus over the amount needed for local consumption cannot be sold. With the coming of railroads these unfortunate conditions will be changed and a great change take place in the methods of cultivation, as well as in the area cultivated. The proportion of yield to seed sown is in general 5 to 1. In the districts of Divrik and Gurun it is estimated at 8 to 1, and in Derende 10 to 1.

The area under cultivation is about 810,000 acres. The principal vegetables are potatoes, turnips, carrots, squash, tomatoes. Fruit is not grown, except in the eastern part of the sanjak. At Gurun the fruit yield is very large and of great variety, comprising plums, cherries, vishne, apricots, peaches, pears, apples, etc. Grapes are not grown.

Opium is cultivated to a limited extent in Divrik and Gurun.

Industries.—Carpets, rugs, and kilims of an excellent quality are made in the towns and villages. Their manufacture is the chief occupation of the villagers in winter. The patterns are largely imitated from old Persian carpets.

The principal industry of the city of Sivas is the manufacture of woolen socks. It is estimated that over 500,000 pairs are manufactured per year. They are exported to Kharput, Mosul, and Aleppo. They are made by hand from native yarn spun by the women, and are coarse and rough in texture. They sell for from 2½ to 4 piasters (10 to 17 cents) per pair. Cloth of a good quality, comparing well with that imported for clothing from Europe, is made at Gurun. A special variety of bright-colored woolen cloth, in fantastic designs, used for girdles and women's dress, is also made there, and has a wide reputation. A coarse, rough cloth, used by villagers and the poorer classes in the cities, is extensively manufactured in nearly all villages. There are nowhere any factories, all the weaving, dyeing, spinning, etc., being done by women at home. English yarn is used to a large extent in Gurun and Divrik.

There are numerous mills for grinding wheat. For the most part they are small and with very rude machinery. In Sivas, however, there are two large mills run by water, fitted with first-class European machinery. The product of these mills is celebrated throughout the country and is exported in considerable quantities to the cities on the seacoast and to the interior.

Imports.—The following tables show approximately the value of the imports into the sanjak:

Copper	$7,500	Olive oil	$1,500
Steel	1,200	Hardware	2,200
Iron	23,000	Leather	8,500
Tin	1,500	Cotton (raw)	31,000
Petroleum	12,200	Cotton (dyed)	65,000
Candles	660	Calico	52,000
Sugar	9,900	Cloth	30,000
Coffee	15,800	Fezes	4,500
Rice	13,000	Dyes	6,500
Soap	4,000	Indigo	3,300
Paper	9,000	Liquors	5,700
Glass	2,600		
			$320,660

Buffaloes to the value of $30,000 are imported from Bagdad, and oxen to the value of $22,000 from Kars.

Exports.—The approximate value of the principal exports from the sanjak is shown in the following table:

Wool	$26,000	Tallow	$5,200
Skins	17,000	Rugs, carpets, and kilims	35,000
Yellow berries	4,500	Socks	6,600
Gum tragacanth	11,000	Sheep	13,000
Opium	1,700	Hides	10,500
Salep	1,000	Horses	10,000
Wax	1,200		
			$202,100

The figures for the amount and value of the grain exported cannot be obtained.

I am indebted to Mr. Ernest Weakley, of this city, for many of the facts and figures above given.

H. M. JEWETT,
Consul.

UNITED STATES CONSULATE,
Sivas, October 18, 1891.

SWISS SAVINGS BANKS.

REPORT BY CONSUL ADAMS, OF HORGEN.

The question of introducing postal savings banks under state administration in Switzerland was discussed at the last annual meeting of the Swiss Statistical Society, and the conclusion was reached that the existing system of savings banks requires no modification of the kind proposed.

Following the usage of other banking institutions in Switzerland, the savings banks have covered the country with a network of branch offices, all under an assimilated system of administration. According to the latest statistics on the subject there existed in 1882 one *sparkasse* or deposit for savings to every 1,945 inhabitants, every 20 square kilometers of productive territory, and every 2.2 town-

ships. As might be expected, the distribution varied, generally according to the density and industrial development of the population. Thus the canton of Solothurn had one sparkasse for every 731, Zurich for every 942, and Basel for every 1,040 inhabitants, while the mountain cantons of Wallis and Uri had, respectively, only one for 12,527 and 23,694 inhabitants. On the other hand, Geneva, the wealthiest of the cantons and the most important banking center of the country, had only one for every 7,815 inhabitants.

The accessibility and soundness of the savings banks are shown by the fact that 262 per thousand of the whole population were depositors. The industrial canton of Glarus lead the list with a proportion of 525 per thousand. Wallis closed it with a proportion of only 3 per thousand. That the depositors come principally from the classes to whom savings banks are most important appears from the fact that 672 per thousand of all depositors had in 1882 credits of less than 501 francs, 137 per thousand credits of more than 500 and less than 1,001 francs, 174 per thousand of more than 1,000 and less than 5,001 francs, while only 17 per thousand had credits exceeding 5,000 francs.

It appears further that the Swiss savings banks have attained a development relatively higher than those of any other European country, counting both local and postal banks. Thus in 1888 the proportion of savings bank depositors to population was: In France, 163 per 1,000; in Great Britain, 152 per 1,000; in Belgium, 128 per 1,000; in Austria, 121 per 1,000, while in Switzerland in 1882 it was already 262 per 1,000. The proportion credited to the little canton of Glarus, 525 per 1,000, is probably without example elsewhere, although closely approached by other of the cantons.

It may be added as an interesting trait of national character that children's savings banks have been introduced recently into the public schools of several localities with good results.

LYELL T. ADAMS,
Consul.

UNITED STATES CONSULATE,
Horgen, November 9, 1891.

FOREIGN COTTON YARNS IN FRANCE.

REPORT BY MINISTER REID, OF PARIS.

The Department, in its No. 318 of August 10th, referred to a report published by the "Textile Mercury," of a discussion in the French Chamber, on July 16th, on the cotton spinning industry, where, as alleged, the Government intimated that it would extend

the temporary free admission of cotton yarns. You directed me to procure certain information as to the nature of this free admission.

The debate in the Chamber on July 16th related to silk yarn and tissue, and only referred occasionally to cotton yarns. Finding there no information, I applied to the Director General of French Customs, whose reply is herewith inclosed with a translation of the same.

WHITELAW REID,
Minister.

LEGATION OF THE UNITED STATES,
Paris, October 23, 1891.

THE DIRECTOR GENERAL OF CUSTOMS TO MINISTER REID.

MR. MINISTER: I have the honor to furnish you below with the information which you were good enough to ask of me by your letter of the 3d September.

The duties, in France, on cotton yarns are divided into a large number of categories, which are given in detail on pages 45 to 47 of the Official Tariff, edition of 1885. In all probability modifications will be made in these regulations, to take effect on 1st February, 1892; but nothing is as yet definitely settled in this respect, the matter in question not having, up to the present, been brought up for discussion in the Senate.

Temporary admission, free of duty, is at present granted as an exception for certain classes of yarns intended for the fabrication of products specially designated, namely:

First. The bleached yarns, simple or twisted, of grade No. 50, and alone for use in the manufacture of cotton textures, mixed with flock silk, or silk and flock silk, or mixed with pure silk. The importations of these yarns and the exhibition of the products can only be effected through the Lyons custom house.

Second. Twist cotton yarns for the manufacture of fishing nets.

A special authorization exclusively confined to each importation is necessary. It specifies the quantity and the class of the yarns that may be admitted as well as the bureaux through which the importation must be made.

Third. Cotton yarns, twisted into two ends (?) (retorts en deux bouts) black, glazed, intended for the manufacture of laces (braids). These yarns must conform to four deposited types, and shall measure to the kilogram:

No. 1. Form 55,000 to 56,000 m.
No. 2. Form 68,000 to 70,000 m.
No. 3. Form 70,000 to 80,000 m.
No. 4. Form 109,000 to 110,000 m.

The yarns can only be brought in through the custom house at Paris, and the withdrawal of the laces can only be effected through the same office and through that of Boulogne, where samples must be deposited. The authorization, granted by way of exception, is good for one year, and revocable in case of abuse.

These facilities will be maintained by the new tariff law at present under discussion before Parliament.

E. PALLAIN,
Councillor of State, Director General.

Paris, October 8, 1891.

THE POSTAL SAVINGS BANK OF FRANCE.

REPORT BY CONSUL KNOWLES, OF BORDEAUX.

Somewhat over ten years ago an idea was conceived in France of organizing a national savings bank based on principles hitherto unknown to that country, but neither novel in theory or practice. It was that of establishing a banking institution which, while offering the usual facilities to depositors, would embrace still greater ones by acting in direct coöperation with suburban and provincial post offices.

Deposits might be made at any of the money-order bureaus or at such offices as the bank or the director general might designate. Each depositor would be provided with a book and each deposit entered in it, attested by the receiving officer and dated with the stamp of his office. The depositor would be entitled to payment of the whole or any part of his money by simple demand at any of the bank's sub-offices, and not necessarily at the one where the deposit was made.

The institution was organized, received its charter from the state, and opened its doors on January 1, 1882. The interest to be paid on moneys intrusted to its care was fixed at 3 per cent., and its franchise provided that at all periods a certain percentage of its capital should be invested in government securities, offering thereby to its depositors almost complete assurance of its unqualified stability.

From the day of its establishment the *Caisse National d'Epargne* of France has developed and increased its operations with amazing rapidity, and no greater proof of its flourishing condition could be offered than the report of its finances for the year 1890, addressed by the Minister of Commerce to the President of the Republic, and dated October 15, 1891.

A brief *resumé* of its contents may not be uninteresting reading.

During the year 1890 the bank received at its headquarters in Paris, and through its 6,817 branch offices in the country, 1,949,371 separate deposits, representing in currency the sum of $50,465,832.47. These figures are far greater than were those of the preceding year, when everything of an internal or financial nature was favored by the famous International Exposition and the influx of foreigners within French boundaries.

Figures representing almost two millions of depositors indicate something more than one might judge from it at first glance, for it means a seventeenth part of the entire population of France and Algeria combined.

Again, as a proof of the increasing confidence in the institution held by the French, we find that as many as 348,695 new accounts were opened during 1890, the bank receiving in that year more clients than in any one since the day of its foundation. Of these new depositors 150,787 were women, 197,908 men, and one-quarter of the whole had not attained their majority. The total amount of money placed by these in trust was $19,487,889.55.

Just as the condition of a great banking institution is indicative of the credit of the nation wherein it is situated, so is the financial status of its branch offices a measure of the prosperity of the localities in which they are placed. It is quite natural then, in the annual statistics published by the Minister of Commerce, that the greatest import should be attached to the increase or decrease of operations in certain arbitrary topographical latitudes. Increase in one department denotes good crops, the healthy condition of vineyards and harvest fields, fruit, vegetables, cattle, and even weather. By the same process of deduction can the merchant tell where his goods may find a ready or indifferent sale, the speculator where the most favorable market exists, the investor the relative value of real estate.

Little wonder, then, that Monsieur Jules Roche, who directs the industrial and commercial engines of the French Republic, should more especially direct attention to these minor arteries of finance that each and all have their origin in the great aortic arch of Paris.

Curiously enough, the larger cities of France do not, as far as the *Caisse National d'Epargne* is concerned, follow in anything like the order of their physical importance. For after the capital we find Grenoble, a city of but 51,000 inhabitants, claiming second place. Nice is third on the list; then follow Montpellier, Nimes, Marseilles, Toulouse, Limoges, Reims, and Toulon, while Tourcoing, Saint Etienne, Roubaix, Amiens, Lyons, Havre, and Orleans cannot show such balance sheets as the former, notwithstanding the continued increase in their operations. These are the cities.

Of departments: That of the Alpes, Maritimes, Seine, and Var occupy first, second, and third rank, respectively. Oran, Finistere, Constantine, and Tunis are at the bottom of the list.

The Pas-de-Calais, Creuse, Gard, Gers, Landes, Tudre-et-Loire, Haute-Garonne, Loir-et-Cher, Nièvre, Ardéche, Seine-et-Marne, Jura, Vendée, Vosges, Haute-Saône and Eure show a falling off. But the decrease of transactions in these several departments does not affect the general operations of the year, which, as before stated, show a marked augmentation.

On December 31, 1890, there were 495,862 individual deposits, amounting to $4 and under; 320,240 of sums between $4 and $20; 165,345 of $20 to $40; 216,620 from $40 to $100; 136,656 from $100 to

$200; 127,842 from $200 to $400, and 41,964 from $400 upward. It is evident from this that out of 1,524,688 depositors whose names are on the bank's books, over half are credited with amounts under $20, and in this the institution achieves its purpose, namely, that of serving the working classes who are unable to place their money in the more pretentious concerns.

The disbursements of the bank during the same year amounted to 73.10 per cent. of the moneys received. During 1889 they amounted to 72.80 per cent., in 1888, 78.60 per cent., and in 1887, 81.30 per cent.

From the date of its establishment the *Caisse National d'Epargne* shows by its accounts the record of 14,169,756 transactions, resulting in the passing through of its hands of $416,458,138.47.

In 1882 there were 6,024 post offices authorized to receive and disburse the bank's moneys; in 1883, 6,193; in 1884, 6,478; in 1885, 6,620; in 1886, 6,449; in 1887, 6,712; in 1888, 6,765; in 1889, 6,792, and in 1890, 6,817. Each bureau averages 394 separate transactions per annum. On the 31st of December, 1889, there were $64,091,265.15 in the vaults of the bank. In 1890 at the same period there were $79,793,736.44, and the greater part of this is invested in state collateral paying from 3 to 4½ per cent. Thus while the interest paid to depositors is not equal to that allowed by the savings banks of America insurance against loss rests in that very fact.

The continued increase in the business of this as well as of other banking houses in France, denotes not merely the firmness of their footing but of their individual soundness. A nation's banks are the barometers of its prosperity. They register the existence of industrial affluence and the approach of impending storm and disaster alike. They are the medium through which we may know to an absolute certainty the condition, the purity or turbulence of the financial atmosphere, without venturing abroad.

In short, they are are the graduated scales of political economy, be their reading what it may.

HORACE G. KNOWLES,
Consul.

UNITED STATES CONSULATE,
Bordeaux, November 11, 1891.

FOREIGN COMMERCE OF FRANCE.

BY COMMERCIAL AGENT LOOMIS, OF ST. ETIENNE.

The foreign commerce of France for the nine months closing September 30, 1891, does not show any significant changes save in the matter of the importation of breadstuffs and raw materials.

The importations in both these lines continue to increase.

The exportations, which showed a falling off during the first eight months of the year, register an increase in the month of September of 7,432,000 francs.

The manufacturing industries of France are beginning to show signs of renewed prosperity, and the increase of exports for September indicates the existence of a fresh and important demand for their products.

The following table shows the importations for the first nine months of 1891, the second column indicating the difference in the amount of exportations as compared with the corresponding months of 1890:

Months.	Importations (expressed in thousands of francs).		Exportations (expressed in thousands of francs).	
	1891.	Difference over 1890.	1891.	Difference over 1890.
January	308,643	—25,941	201,543	—37,034
February	429,479	+36,118	284,814	+ 8,580
March	485,346	+91,672	348,573	+10,267
April	433,429	+86,755	322,431	—19,840
May	358,974	—95,357	301,831	—36,913
June	383,582	+55,820	276,462	—21,853
July	408,023	+10,807	280,590	—10,798
August	388,013	+49,916	281,160	—14,832
September	410,431	+83,205	332,138	+19,099

The foreign commerce of France for the first nine months of both years, with declared statement for the months of September, is as follows:

Importations (expressed in thousands of francs).

Articles.	September.		Nine months.	
	1891.	1890.	1891.	1890.
Food and breadstuffs	147,289	107,104	1,101,447	1,035,741
Raw material	196,224	160,262	1,929,881	1,727,192
Fabricated objects	54,604	49,008	475,988	455,060
Other products	12,314	10,852	98,604	94,922
Total	410,431	327,226	3,605,920	3,312,915
Gold and silver bullion	23,457	13,860	442,133	192,089

Exportations (expressed in thousands of francs).

Food and breadstuffs	62,164	64,810	527,113	586,141
Raw material	80,334	66,384	573,480	574,228
Fabricated objects	171,653	164,221	1,360,345	1,417,914
Other products	17,987	17,624	168,544	154,523
Total	332,138	313,039	2,629,482	2,732,806
Gold and silver bullion	111,237	43,037	320,680	184,894

IMPORTATIONS.

By the foregoing figures it will be seen that the month of September has had little or no effect on the general results of the importation. The same increase has been observed hitherto in wines, sugar, coffee, meat, fish, butter, cheese, olive oil, skins, wool, feathers, silks, cotton, caoutchouc, timber for building purposes, copper, silk, woolen and cotton fabrics, machines, furniture, and sculptured objects in wood.

On the other hand, there is a decrease in table fruits, cattle, rice, hemp, manure, logwood, minerals, indigo, and chemical products.

Cereals call for especial mention.

The importation of cereals increased by thirty-three millions of francs, making for the first nine months of 1891 three hundred and sixteen millions of francs. India, Australia, and the United States have furnished the greater part of this increase.

Importation of cereals in metric quintals (metric quintal = 100 lbs.).

Countries.	1891.	1890.
India	1,176,991	393,679
Australia	1,343,568	798,070
United States	3,938,377	1,587,751
Tunis	427,506	53,634

EXPORTATIONS.

The exportations for the month of September present two new features: Firstly, increase in the exportation of raw material; and secondly, increase in manufactured articles. That of food and breadstuffs remains stationary.

As regards the raw material, the increase was observed essentially in wools, feathers, silk, and copper, whereas in the case of manufactured articles the increase for the month of September amounted to over seven millions of francs, a fact of some importance when it is considered that during the preceding eight months a decrease was always registered. However, the general result of the year is but little modified by the month of September, as the preceding months showed a deficit of sixty-five millions of francs.

FRANCIS B. LOOMIS,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
St. Etienne, November 12, 1891.

INTERNATIONAL CONTROL OF EMIGRATION.

REPORT BY COMMERCIAL AGENT LOOMIS, OF ST. ETIENNE.

Emigration controlled by international legislation is a question of the hour in Europe.

To-day, like everything else, emigration has become a science. Colonists are no longer adventurers seeking fortune over hills and dales, but they furnish the regular and constant help so needful to foreign agricultural communities. Under these conditions emigration is transformed into an incessant movement of the population amounting to several millions of men, which must be definitely organized.

At the outset European governments showed themselves very hostile to emigration, and attempted by every means in their power to check it. Russia prohibits it still. England began by opposing emigration.

But the Constitution of the United States and the immense territory which the young republic opened suddenly to the world, the development of the mercantile marine and commercial relations, and the application of steam have contributed to make emigration a necessity, against which it was useless to struggle.

The European governments understood this, and instead of putting obstacles in the way of emigration, they preferred to organize it.

It was after 1815, following the wars of Napoleon, of which the world was so visibly weary, that the first serious emigration expedition took place. At that moment the great navigation companies transported to the young America emigrants from the old country who made it their future home.

EUROPEAN OPINION.

Nevertheless, in spite of the manifest advantages to civilization, opinions in Europe are still divided on the subject of emigration. Many statesmen hold that in the present condition of Europe emigration is a source of danger to nations forced to sustain standing armies, while others maintain that this state of armed watchfulness cannot be permanent, and that it should not be permitted to arrest civilization in its onward march.

"However that may be," says the Petit Journal of Paris, in a leading article to-day, "it is certain that in a general way emigration is a good thing. It eliminates from certain countries the elements of social discord, which they contained, in a way that is to the advantage of others receiving them. Australia is a case in point."

"Further, it is incontestable that emigration creates new commercial relations between countries hitherto strangers to each other. Universal commerce profits by it, and relations between nations are drawn closer to the great advantage of civilization."

It is to this end that emigration ought to be encouraged, and the greatest facilities should be afforded to emigrants in order that they may reap the greatest benefit from their voluntary exile.

In order to accomplish this, emigration ought to be controlled and organized by international legislation. It was with this object in view that a few weeks ago the first meeting of an international congress was held in Paris. The committee of the congress has organized for the end of this month (November) a series of conferences in which all the questions relative to emigration will be discussed. Already several governments have declared themselves as partisans of this meeting.

AIMS OF THE INTERNATIONAL COMMITTEE.

The aim of the international committee is as follows: To fix by a public and competent debate the principle of international legislation on the subject of emigration; to indicate to the powers the resolutions adopted in this debate, and to solicit subsequently from some government having sympathy with the work the promise of its influence to enter into *pourparers* with other states.

Unorganized emigration has but too frequently given rise to crying abuses. Prince Cassano, general secretary of the international congress, has drawn particular attention "to the shameless traffic of certain agents, the departure of incapable and indigent persons having neither the aptitudes nor the means, nor the *will* to work, and who cause a considerable amount of trouble to the governments of both countries." "European laws," observes M. Cassano, "have grown old; they no longer answer to modern needs."

The principal points bearing on these precautionary measures are as follows: Legislation to control agencies, recruiting departures, crossings, and insurances; general and special legislation, together with administrative measures which might interest emigrants; the laws relative to the lands placed at their disposition; the kind of labor offered them, etc.

VICIOUS EMIGRATION AGENCIES.

It is well known that at present the emigrant is at the mercy of the agencies which collect without the slightest sense of responsibility all kinds and conditions of colonists, which they drive before them like a flock.

These unfortunate classes, insufficiently prepared for their exodus and imperfectly protected by their governments, become a source almost of real danger to the country of their adoption.

Consequently it is full time that such abuses cease. The moment has come to organize emigration, as much for the emigrants as for the cause of civilization.

FRANCIS B. LOOMIS,
Consul.

UNITED STATES CONSULATE,
St. Etienne, France, November 10, 1891.

THE TOMATO IN GREAT BRITAIN.

REPORT BY COMMERCIAL AGENT SMYTH, OF HUDDERSFIELD.

Although known in this country as far back as the sixteenth century, very little effort has been made to cultivate the tomato as an article of food until late years; and as a well-informed writer in one of the magazines for the current month remarks, it was only within the last ten years that its value in this respect has been properly appreciated. Half a century ago it made its appearance in the London market alongside its democratic congener in the solanum family, the potato, but made very poor progress in public favor until a comparatively few years since. Both came from the western hemisphere about the same time.

To-day there are over *one million square feet of glass surface* in Great Britain exclusively devoted to the cultivation and production of tomatoes for market purposes; and these tomatoes are sold at prices from 8 cents to 16 cents per pound in the season. Just now, as the crop is about gathered, the price has advanced to 20 and 25 cents, and up it will go until it reaches the high-water mark of 50 cents per pound in the middle of winter. Tomatoes at 50 cents per pound are somewhat of a luxury.

The principal source of supply for the tomato out of season lies in the channel islands, Guernsey, Jersey, etc. The climate there suits the plant, where it can be grown in the open air. In the year 1890 these islands supplied the London market with over a thousand tons, valued at $250,000. The Azores and the Canary islands also sent their quota; and so did France and Spain. Notwithstanding the fact that the inhabitants of these countries enjoy special advantages in the matter of climate for the growth and development of the tomato, and are able to conduct a large traffic in its sale for most of the year, the facilities for transportation are not such as to enable them to maintain absolute control of the London market. The

epicurean taste prefers the hothouse article from a singular notion that it is superior to the natural growth. This gives it a value that does not properly belong to it, and accounts for the large amount of money invested in hothouses in the London suburban districts and particularly in Sussex and the midland counties. The cultivation on both sides is on the increase, for the consumption is becoming greater every year. In ten years from now the trade will be five times what it is to-day. Such a prospect should not fail to act as a strong incentive to our horticulturists to consider the question of its export and its practicability, as well as the commercial possibilities which it possesses. The revolution in steamship service in the past two years should encourage them. Rapid transit at sea as on land has removed a great many obstacles which have hitherto interfered with the transportation of fruit and confined the products of the American gardener to the local market. It would appear ridiculous to assert that a shipment of tomatoes in the splendidly equipped and well-ventilated steamers of the Inman and White Star lines could not be delivered at the docks in Liverpool in tip-top condition ready for sale in the market at a substantial profit. The objection to those shipped from the Azores and the Canary islands is not, properly speaking, based so much on the effects of delay in transit as from those which are directly attributable to irregularities in the methods of packing. Latterly improvements in this respect have been introduced. Instead of coarse, solid packages, light, strong wicker baskets holding about twenty-five pounds each are used. These baskets are lined with paper, then filled, when another sheet of paper is placed on top, the necessary cording done, and the package is ready for shipment. The French use similar baskets, and with their characteristic fancy for the picturesque employ paper of different colors for packing purposes. The idea is to encourage the sale by making them look as attractive as possible.

I have no doubt in my mind but that American tomatoes can be placed in the London market in first-rate condition, and that eventually they could be made an important article of export. I am confirmed in my opinions on this point by my experience on board English steamers on homeward-bound trips, when American tomatoes could be obtained up to the docks in Liverpool on the seventh and eighth day as sound and fresh as on the first day out. For these reasons I believe there is an opportunity here for the American horticulturist. The trade is becoming so extensive that the capacity of the home production is overtaxed, and the consequence is the price is high and the consumption not near what it would be were the tomato reduced to the level of the popularity it occupies in the United States. To accomplish this we must look to that country from which England is now drawing seventy or eighty million dollars worth of

breadstuffs and provisions each year. We ship fruit in abundance- pears, apples, etc., and why not the tomato? Once established in these markets it would soon be within the reach of all, the poor as well as the rich. Commercial intercourse between England and the United States has been instrumental in influencing the Englishman's taste in more respects than one. In a hygienic sense he is indebted to it for a great deal. Having become acquainted with the porterhouse steak, it was in concord with the eternal fitness of things that the same instrumentality should fashion his taste for the tomato. What was once the love-apple of his forefathers, a mere object of romance and curiosity mixed up with all sorts of mythological traditions, is now served on his table and eaten "blood raw"—no longer "Like to the apples on the Dead sea's shore, all ashes to the taste."

WILLIAM P. SMYTH,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Huddersfield, November 6, 1891.

AMERICANS SEEKING EMPLOYMENT IN AUSTRALIA.

REPORT BY CONSUL GENERAL WALLACE, OF MELBOURNE.

I feel it to be a duty I owe to all young and adventurous Americans to give them a word of warning against an immigration to this continent at the present time in search of remunerative occupation. I earnestly advise them not to undertake the journey unless to fulfill an engagement made beforehand, or they be prepared, financially, to remain for a considerable time without employment; and my judgment after a year's observation is, that even then they will be better off to remain at home.

Australia undoubtedly has enormous resources which are, as yet, undeveloped, and from the peculiarities of the conditions surrounding them, and the present situation here, they must remain so for a long time to come.

The facilities which have been evolved and fitted to the conditions existing in other parts of the world are not such as can be successfully used here. Nature has on this continent given man an entirely new set of problems to solve, and until these have been worked out, "until the application is made to fit the circumstance," utilization of all this country is possessed of will be slow.

The cities and the country districts as well are but now emerging from the frenzy of an unparalleled "land boom," and as this was followed last year by the disastrous maritime strike, trade of every

description is stagnant. The unemployed are clamorous for work in every section. Particularly is this true among salesmen, book-keepers, agents, teachers, engine-drivers and other railway employés, telegraph operators, etc., and an advertisement for one of these is quickly answered by a hundred applicants for each position offered. This is largely owing to what is known here as the "Jackaroo system," young men who are sent out from England to learn the business and who pay from 50 to 200 pounds sterling for their places. I do not think there is any prejudice against citizens of the United States, but, other things being equal, the British subject naturally has the preference. Quite a number of energetic Americans now here have industriously sought employment without success, and the charity of the few Americans resident here alone prevents absolute suffering for food. But this charity has been stretched to the utmost, and, as I have been informed, there are others who are preparing to come, I am induced to write this word of warning and suggest its publication in the press of the United States.

GEO. H. WALLACE.
Consul General.

UNITED STATES CONSULATE GENERAL,
Melbourne, October 28, 1891.

DULLNESS IN RAILWAY ROLLING STOCK FACTORIES.—LARGE NUMBER OF MEN UNEMPLOYED.

[Newspaper inclosure, October 28, in Consul General Wallace's report.]

Mr. W. M. Clark, M. L. A., accompanied by Mr. Maloney, M. L. A., and Mr. W. H. Roberts, M. L. C., introduced a deputation to the Premier, Mr. James Munro, yesterday, with reference to the necessity for taking steps to insure the carrying out of contracts for the supply of railway rolling stock and the giving employment to a large number of artisans who are now out of work owing to the stoppage of a number of iron factories.

Mr. Clark, in introducing the deputation, said it had been appointed at a public meeting held in Footscray Mechanics' Institute on Saturday last, and at which members of the carriage builders, blacksmiths, engineers, and other tradesmen were represented. The Premier was possibly aware that the engineering works of Messrs. Bevan & Son had been closed for five or six months, and that Messrs. Henderson & Co's works had also closed recently. Messrs. Bevan employed about 250 men. In addition to the works he had named, Mr. Hugh Lennon's men had gone, and the works were on the point of closing, and the worst of it was that these works were compulsorily closed. In all there were 600 men out of work altogether, of whom about 400 lived in his district. The present deputation was not to be stigmatized as one of the ordinary "unemployed" organizations. The men were all tradesmen, mostly working men who owned little cottages which they were paying for on the time payment system, all honestly anxious to obtain work, and to them the present stagnation meant not only ruin but starvation, and if they did not pay up their installments as they became due they were in danger of being turned out of their homes.

Mr. Roberts, M. L. C., said he knew the factories mentioned by Mr. Clark were closed, and knew also the difficulties which from time to time cropped up in the matter of finding ways and means to carry out public works. An agitation such as had arisen last year would soon arise among the farmers for more rolling stock, as the country was still being opened up and the scarcity of rolling stock on the railway lines was likely to recur. A number of contracts were let for the manufacture of wagons, etc., and if the government could see their way to have some of these contracts carried on the desire of the deputation would be met. The compulsory closing of Messrs. Wright & Edwards, Limited, and the closing of other shops from want of work had told severely on the men, and if anything could be done for them they would all be very glad.

Mr. Maloney, M. L. A., indorsed all that had fallen from the other speakers.

Cr. Minty, mayor of Footscray, said he could simply point out that the amount of distress that was represented by the deputation actually existed. The men, or a great number of them, had purchased properties for which they were paying in installments, but they had to sell them at a loss to themselves, and he knew of cases where four and five families were living in one cottage of four rooms. If any means could be found to afford employment to these men the government would earn the lasting gratitude of all concerned.

Mr. J. Stewart, a member of the Melbourne Harbor Trust, said he had been requested to attend a meeting held on Saturday morning last in the Mechanics' Institute at Footscray, at which the distress now existing among the men was forcibly pointed out. These men had been led by the apparent permanency of the works to purchase little homes of their own, and their places were now about to be wrested from them through no fault of their own.

Mr. A. W. Anscombe, one of the men appointed by the public meeting to attend on the deputation, said the whole of the works had closed in the district, and it was therefore in a state of disorganization. The greater part of the workingmen living in Footscray were out of employment at the present time. If they were simply unemployed and free of all liabilities they might go elsewhere to look for work, but they had entered into obligations to purchase properties for themselves, and had no funds on which to fall back. They were also in debt to tradesmen, who were now unable to see their way to continue credit to them. A very great amount of distress was caused in this way, and the deputation hoped the Premier would either be able to see his way to put on men at Newport, where a very large amount of work was lying in the yards waiting to be done, or else that he would see his way to have the remainder of Messrs. Wright & Edwards' contract gone on with at once.

Mr. Munro. What is the nature of the work at Wright & Edwards?

Mr. Anscombe. The contract was for the manufacture of carriages and wagons. If Messrs. Wright & Edwards' contract could not be gone on with the work might be done by the department. This matter affected a number of other industries beside the carriage builders. They were aware that the finances of the colony were in a low state, but he thought any financial difficulty might be gotten over by paying the men in government notes, arrangements for the issue of which might be made.

Mr. Munro. There is no financial difficulty at all. In four years we have borrowed £11,500,000 of money; this year we have borrowed £3,000,000, and it has been expended. The whole thing is absurd to talk about want of money.

Mr. Anscombe. I see by the press that the government intends to float another loan.

Mr. Munro. That is nearly all expended now. If the Railway Department spends £3,000,000 or £4,000,000 a year in works of this kind the country cannot stand it.

Mr. Anscombe. We are aware that the finances of the railways are in a disorganized state, but I think that is brought about by a third of the population using the railways free.

Mr. Munro. I am not dealing with the railway finances at all; I am dealing with the question of borrowing money. Our borrowing is double what it ought to be.

Mr. Anscombe. But you have got value for that money in the stock.

Mr. Munro. That is all very well, but you cannot get people to lend you money if you borrow extravagantly.

Mr. Anscombe. But they have the stock as full value for the money they lend.

Mr. Munro. There is no use in my discussing the matter with you. I merely want you to understand that our creditors are not going to lend us £3,000,000 every year. It took us all our time to float our last £3,000,000 loan, and we must at least limit our borrowing to £2,000,000 a year. I understood from Mr. Clark yesterday when he spoke to me about it that some suggestion of value would be made; in fact, I asked him to put it to the deputation that I would like them to show me some way in which I could meet their wishes. Everything in connection with the railway workshops is under the Railway Commissioners, and I have no power to do anything in that matter.

Mr. Clark said the deputation had seen the Railway Commissioners and pointed out the extent to which railway rolling stock was required.

Mr. Munro said the Railway Commissioners had never made application for money for rolling stock without obtaining it.

Mr. Clark said the idea of the deputation was that there was a great deal of work at Newport, and also the contract of Messrs. Wright & Edwards, which was stopped on account of the financial difficulties of the company, and if arrangements could be made whereby the present company could go on with the work, all the deputation asked would be granted. If not, they would like arrangements to be made with some other firm to complete the contract.

Mr. Munro. But don't you see that you have come to the wrong shop. When the contract was let to Wright & Edwards, provision was made for the money to pay them, and the party that let that contract is the proper one to make other arrangements. The Railway Department have got every shilling that they have asked for new rolling stock. The late loan has not all been floated yet.

Mr. Roberts. I suppose it simply means that the Railway Department have entered into the contract with Wright & Edwards, and that they have to make other arrangements.

Mr. Clark. I have seen the Railway Commissioners, and they say they have had no official information of the failure of Messrs. Wright & Edwards to carry out their contract.

Mr. Munro. When the Commissioners entered into the contract with Wright & Edwards they knew that the money would be available for them to pay for any goods that were produced. If Wright & Edwards are not carrying on their contract it has nothing to do with me. As far as the railways are concerned, as I said before, we have floated £11,500,000 of loans this last four years, and except a little for a redemption loan, there is none except for paying for railways or rolling stock. Our indebtedness now is about £43,000,000, or £40 for every man, woman, and child in the colony, and we must stop borrowing some time. We cannot go on as we are going forever. To talk about making payments for advances by government notes, the thing is absurd.

Mr. Clark. Supposing the Commissioners informed you that they wanted 1,000 trucks and carriages, would they be able to get the money for them?

Mr. Munro. Yes, certainly.

Mr. Clark. That is all we want.

The deputation then retired.

THE CURRENCY OF KOREA.

REPORT BY CONSUL-GENERAL HEARD, OF SEOUL.

I have the honor to offer a few remarks with regard to the currency of Korea—its nature and present condition.

You are aware that the only native coin is copper cash. Mexican dollars and Japanese yen are used in the ports to a moderate extent, but are almost unknown in the interior, and the cumbrous nature of the medium employed, together with the great fluctuations in its value, is a serious obstacle to the expansion of trade.

When the treaty with the United States was concluded in May, 1882, the coin in use was single cash pieces, composed of a mixture of copper and lead or spelter, of various sizes and weights, but of the value, roughly speaking, of 400 to the Mexican dollar. Early in 1883, the government fixed the rate at 525 to the dollar, which was about the market value at the time. In the summer of that year it authorized the issue of a new coin rather larger than the old, to contain six parts of copper to four of lead, which should have the legal value of five of the old, though but little superior in quantity of metal. It was of wretched manufacture, made in private as well as in official mints, cast, not struck, of irregular size, often containing iron, and easy to break between the fingers. Through the authority of the government it became readily current in the capital and immediate vicinity, but of course owing to the disproportion between its nominal and real value speedily deteriorated. Early last year it had reached 1,600 to 1,700 to the dollar, from which it fell gradually to 2,100 or 2,200 in the spring of 1891. The fall became then more precipitate, and in September (last month) for a few days it touched 3,400. This decline produced the gravest inconveniences. Prices of food of all kinds rose rapidly, and even more rapidly after a time than the corresponding depreciation of the cash as compared with silver, and the distress of all those who received a fixed income or payment in cash may be conceived. Many shopkeepers closed their doors. The fluctuations were so rapid that merchants could make no calculations upon which they could rely. An importer, before he could turn the price which he had received in cash for his goods into silver, would lose perhaps 10 per cent. or more, and no one knew how far the downward course would continue, or in what way it could be arrested. The issue by the government of fresh coin was stopped—had been, indeed, for several months—and the distress caused by the excessive depreciation and the fear of grave political trouble induced the

officials seriously to contemplate the purchase and calling in of a certain quantity.

The 5 cash coin has currency and is legal tender, so to speak, only within a district described by a radius of say 30 to 35 miles from Seoul as a centre. Beyond this to the north and south the single coin is 1 cash; around the central district is a zone where the 5 cash and the 1 cash pieces circulate interchangeably on an equality, and outside this zone the 5 cash piece is considered as about equal in value to the 1 cash piece, but the two coins are not currently exchanged one for the other.

One of the schemes suggested was the purchase at Seoul by the government of 5 cash pieces, their shipment to Ping Yang, and recoinage there in 1 cash pieces for distribution in that district, which the slight difference in exchange would permit being done at a small loss, and the repeating of this operation as often as might be necessary to reconstitute the normal value.

At the moment when these measures were under discussion, a demand for the purchase of ginsong at Sung Do, about 30 miles distant, the price of which is calculated on the basis of silver, and a demand for the purchase of rice in the interior, checked the downfall and gave an impetus in the other direction. In a few days the value had risen to 2,800 and 2,700. Cotton goods began to go off, business revived, and a more cheerful feeling was perceptible. But the improvement did not last, and the tendency is now again downward. The quotation to-day is 2,890, and it appears as if the question of a remedy would again become an urgent one.

The coin was complained of as a burden on trade at a time when it stood at its highest value; how much more is that the case now when it has fallen so that $10 weighs over 75 pounds, almost as much as a coolie can carry! Its small value renders shopping impossible, and pilfering easy and constant.

As has been indicated, depreciation was inevitable from the small intrinsic value of the coin, but it may be pointed out that its recent more rapid progress downward was not caused by any further abasement of the metal of which it is composed; in fact, it would be difficult to make it worse than it was at first; and although the amount poured out from the mint was excessive, this alone was hardly sufficient to produce the effect. A potent cause may be found in the great disproportion between the import and the export trade of the country, and the consequent demand for dollars for remittance abroad. A few figures will make this plain. The great gap between the two has hitherto been filled by the export of gold, which is partially declared in the customary tables. This may be regarded simply as an indication. Probably a larger amount goes out clandestinely. It has been estimated that for many years the export

of gold has not been altogether much, if any, less than $3,000,000 annually. The number of gold washers is very large; the work is hard, and the earnings of each one small, so that the great prosperity of the past year, the demand for agricultural products, rice, and beans, and the rise of agricultural wages has drawn off labor from the gold fields, and greatly reduced their product. The complaint has been general this year in all the customary marts that there was no gold; and hence there has been a difficulty of remittance, with the natural result.

FOREIGN TRADE.

I submit figures taken from the Annual Trade reports of the customs:

	Imports.	Exports.		Total exports.
		General.	Gold.	
1886	$2,474,185	$504,225	$1,130,488	$1,634,713
1887	2,845,441	804,996	1,388,269	2,193,215
1888	3,046,443	867,058	1,373,965	2,241,023
1889	3,377,815	1,233,841	982,091	2,215,932
1890	4,727,839	3,550,478	749,699	4,300,177

In the first six months of 1891 the declared exports of the precious metals exceeded the imports by the sum of only $71,757.

The figures are:

Imports: Silver, $305,057; gold, $256,110. Exports: Silver, $120,704. Total, $376,814.

As the movement of the general trade has followed about the same proportion for imports and exports as for the corresponding period of 1890, the small excessive export of the precious metals can go but a little way toward re-establishing the balance.

The erection of a government mint, with modern foreign machinery and appliances, was completed at very considerable expense in 1888, but so far it has not been put into practical operation. The few silver coins which have been struck off contained more metal than their nominal value, and were speedily taken off the market for Japan. The issue of a coin in suitable quantities equivalent to the Mexican dollar would be a boon to commerce and would contribute largely to relieve the present embarrassment.

AUGUSTINE HEARD,
Consul General.

UNITED STATES CONSULATE GENERAL,
Seoul, October 20, 1891.

MEXICAN EXPORTS.

STATEMENTS, FROM THE "DIERIO OFICIAL," TRANSLATED BY SECRETARY OF LEGATION DOUGHERTY.

Exports, by custom houses.

Custom houses.	Fiscal year 1890–91.	Fiscal year 1889–90.	Increase in 1890–91.	Decrease in 1890–91.
Acapulco	$145,914.58	$203,194.60		$48,280.02
Altata	61,832.36	94,013.17		32,180.81
Ascension	93,381.00	57,492.00	$35,889.00	
Bahia de la Magdalena	263.90	117,563.79		117,299.89
Camargo	30,049.61	38,201.84		8,152.23
Campeche	178,358.00	154,566.14	23,791.86	
Ciudad Juarez	14,301,855.87	15,137,724.59		835,868.72
Ciudad Porfirio Diaz	2,698,218.71	2,521,946.74	176,271.97	
Coatzacoalcos	102,403.79	67,181.30	35,222.49	
Frontera	185,375.54	152,373.86	33,001.68	
Guaymas	543,961.51	414,388.68	129,572.83	
Guerrero	1,045.00	15,669.23		14,624.23
Isla del Cármen	956,732.66	860,987.98	95,744.68	
La Paz	808,802.42	652,719.46	156,082.96	
Laredo de Tamaulipas	3,332,243.57	3,047,864.71	284,378.86	
Manzanillo	155,962.77	307,214.27		151,251.50
Matamoras	371,203.37	451,866.75		80,663.38
Mazatlan	5,033,313.00	5,321,455.40		288,142.40
Mier	72,506.50	160,763.44		88,256.94
Nogales	895,336.65	534,859.48	360,477.17	
Palominas	228,762.18	79,041.15	149,721.03	
Progreso	7,447,548.24	7,748,400.19		300,851.95
Puerto Angel	177,784.35	192,704.30		14,919.95
Salina Cruz	84,264.25	143,755.35		59,491.10
San Blas	275,441.85	240,203.00	35,238.85	
San José del Cabo	15,798.50	13,623.78	2,174.72	
Santa Rosalia	947,640.50	711,402.00	236,238.50	
Sásabe	6,064.00	23,668.00		17,604.00
Soconusco	279,783.35	231,552.43	48,230.92	
Tampico	1,075,121.13	718,125.10	356,996.03	
Tijuana	28,605.00	51,344.50		22,739.50
Todos Santos	203,415.87	36,917.32	166,498.55	
Tonalá	415,308.80	221,538.50	193,770.30	
Tuxpam	1,579,635.78	1,659,711.79		80,076.01
Vera Cruz	20,533,460.73	20,115,353.85	418,106.88	
Totals	63,276,395.34	62,499,388.69		
Increase in 1890–91				777,006.65
Totals			2,937,409.28	2,937,409.28

Exports, by countries.

Countries.	Fiscal year 1890–91.	Fiscal year 1889–90.	Increase in 1890–91.	Decrease in 1890–91.
Germany	$2, 785, 874. 86	$1, 693, 773. 15	$1, 092, 101. 71	
Colombia, U. S. of	57, 416. 28	77, 512. 35		$20, 096. 07
Costa Rica	212. 00		212. 00	
China	845. 00		845. 00	
Spain	515, 193. 74	534, 057. 27		18, 863. 53
United States	44, 983, 086. 37	43, 022, 440. 67	1, 960, 645. 70	
France	3, 653, 551. 33	3, 159, 259. 50	494, 291. 83	
Guatemala	193, 711. 47	117, 670. 65	76, 040. 82	
Holland	187, 931. 65	150, 580. 08	37, 351. 57	
Honduras		3, 700. 00		3, 700. 00
England	10, 882, 728. 33	13, 722, 122. 52		2 839, 394. 19
Italy	920. 00	4, 555. 00		3, 635. 00
Nicaragua	6, 289. 31	8, 569. 20		2, 279. 89
Russia	4, 000. 00		4, 000. 00	
San Salvador	4, 635. 00	2, 802. 30	1, 832. 70	
Venezuela		2, 346. 00		2, 346. 00
Totals	63, 276, 395. 34	62, 499, 388. 69		
Increase in 1890–91				777, 006. 65
Totals			3, 667, 321. 33	3, 667, 321. 33

LAST HALF OF FISCAL YEAR 1890–91.

Exports, by custom houses.

Custom houses.	Precious metals.	Merchandise.		Total value, exports.
	Value.	Weight.	Value.	
		Kilogram.		
Acapulco	$19, 875. 00	1, 128, 480	$41, 396. 18	$61, 271. 18
Altata	23, 500. 00	18, 408	2, 400. 00	25, 900. 00
Ascension	20, 525. 00	363	130. 00	20, 655. 00
Bahia de la Magdalena		936	263. 90	263. 90
Camargo	1, 200. 00	60, 726	13, 749. 78	14, 949. 78
Campeche	2, 049. 00	3, 184, 192	94, 040. 00	96, 089. 00
Ciudad Juarez	5, 329, 014. 81	2, 723, 463	1, 381, 926. 90	6, 715, 941. 71
Ciudad Porfirio Diaz	307, 942. 10	24, 698, 946	991, 019. 40	1, 298, 961. 50
Coatzacoalcos		7, 975, 426	59, 968. 10	59, 968. 10
Frontera		4, 870, 769	112, 458. 66	112, 458. 66
Guaymas	197, 674. 60	98, 872	14, 403. 00	212, 077. 60
Guerrero		1, 450	233. 00	233. 00
Isla del Cármen		20, 586, 002	453, 118. 66	453, 118. 66
La Paz	338, 847. 00	1, 017, 964	22, 836. 06	411, 678. 06
Laredo de Tamaulipas	643, 316. 53	2, 549, 404	597, 028. 46	1, 240, 344. 99
Manzanillo	51, 855. 00	1, 026, 206	44, 143. 97	95, 998. 97
Matamoras	102, 740. 00	697, 448	57, 362. 62	160, 102. 62
Mazatlan	2, 399, 449. 14	725, 506. 070	29, 837. 00	2, 429, 286. 14
Mier	10, 156. 00	79, 988	21, 093. 00	31, 249. 00

LAST HALF OF FISCAL YEAR 1890-91.

Exports, by custom houses—Continued.

Custom houses.	Precious metals.	Merchandise.		Total value, exports.
	Value.	Weight.	Value.	
		Kilograms.		
Nogales	565,347.38	1,190,667	47,670.00	613,017.38
Palominas	108,060.99	1,407	1,183.00	109,243.99
Progreso	64,000.00	30,928,761	3,807,644.20	3,971,644.20
Puerto Angel	600.00	355,663	174,030.90	174,630.90
Salina Cruz	21,800.00	1,233,796	30,560.21	52,360.21
San Blas	116,010.00	685,997	41,522.72	157,532.72
San José del Cabo		202,779	4,737.00	4,737.00
Santa Rosalia		6,245,874	947,380.50	947,380.50
Sásabe	450.00	21,602	1,752.00	2,202.00
Soconusco	19,000.00	300,123	163,940.51	182,940.51
Tampico	93,446.70	3,665,962	458,851.00	552,297.70
Tijuana	1,400.00	341	14,195.00	15,595.00
Todos Santos	131,919.09	7,553	4,224.00	136,143.09
Tonalá	184,805.00	85,185	51,890.11	236,695.11
Tuxpam	5,000.00	2,429,738	690,715.23	695,715.23
Vera Cruz	3,281,200.89	20,520,094	6,437,015.98	9,718,216.87
Totals	14,091,179.23	139,320,091.070	16,814,721.05	30,905,900.28

Exports, by countries.

Countries.	Precious metals.	Merchandise.		Total value, exports.
	Value.	Weight.	Value.	
		Kilogram.		
Germany	$977,335.69	4,051,508.070	$596,469.06	$1,573,804.75
Colombia, U. S. of	11,526.00	42,263	1,679.25	13,205.25
Costa Rica		22	12.00	12.00
China		1,430	845.00	845.00
Spain	36,324.00	1,928,029	261,982.57	298,306.57
United States	10,051,518.60	97,194,143	13,420,958.61	23,472,477.21
France	626,430.77	2,331,542	494,647.30	1,121,078.07
Guatemala	150,850.00	442,945	20,132.32	170,982.32
Holland		274,483	156,188.24	156,188.24
England	2,233,565.17	32,809,254	1,856,309.99	4,089,875.16
Italy		438	170.00	170.00
Nicaragua	3,276.00	1,108	1,296.81	4,572.71
Russia		243,000	4,000.00	4,000.00
San Salvador	253.00	15	30.00	383.00
Total	14,091,179.23	139,320,091.070	16,814,721.05	30,905,900.28

Exports of precious metals.

Nomenclature.	Second half of 1890–91.	Second half of 1889–90.	Increase in second half of 1890–91.	Decrease in second half of 1890–91.
Silver ore	$4,284,048.80	$3,068,345.78	$1,215,703.02	
Foreign gold coin	15,750.00	1,579.00	14,171.00	
Mexican gold coin	71,890.00	48,735.00	23,155.00	
Gold bullion	346,100.61	262,898.95	83,201.66	
Foreign silver coin	141,148.00	57,753.50	83,394.50	
Mexican silver coin	4,504,596.00	10,011,879.40		$5,507,283.48
Silver for fluxing	700.00	1,750.00		1,050.00
Silver mixed with gold	409,834.54	155,168.31	254,666.23	
Silver bullion	3,555,657.77	3,615,998.92		60,341.15
Silver sulphurates	761,453.51	428,166.12	333,287.39	
Totals	14,091,179.23	17,652,274.98		
Net decrease in exportation of precious metals during second half of 1890–91			3,561,095.75	
Totals			5,568,674.55	5,568,674.55

Exports, by Articles.

Articles.	Last six months of 1890–91.	Last six months of 1889–90.	Increase in 1890–91.	Decrease in 1890–91.
Garlic	$29,985.78	$31,256.50		$1,270.72
Jewelry and precious stones	12,261.00	5,010.00	$7,251.00	
Starch		6,500.00		6,500.00
Live animals	20,734.00	268,375.75		247,641.75
Indigo	44,389.00	25,109.37	19,279.63	
Rice	7,851.40	1,245.00	6,606.40	
Sugar	23,563.40	22,758.00	805.40	
Empty barrels	8,935.00	2,320.00	6,615.00	
Coffee	5,130,742.63	3,493,111.99	1,637,630.64	
Hard coal	75,578.00	97,416.00		21,838.00
India rubber	41,702.15	51,282.60		9,580.45
Horse hair	37,347.41	41,536.19		4,188.78
Copper	939,270.00	579,046.60	360,223.40	
Various shells	5,676.31	6,136.00		459.69
Tanning bark	11,663.00	6,200.00	5,463.00	
Chewing gum	753,215.11	390,311.34	362,903.77	
Chile	9,372.90	3,059.44	6,313.46	
MSS. documents	4,448.00	110,725.00		106,277.00
Baggage	31,261.00	8,919.00	22,342.00	
Essence of aloes	6,565.00	1,330.00	5,235.00	
Beans	111,033.89	170,653.02		59,619.13
Fruit	44,283.50	26,124.00	18,159.50	
Chick pea	66,856.03	13,552.91	53,303.12	
Guano		20,000.00		20,000.00
Hemp (Henequen)	3,734,041.88	3,307,764.39	426,277.49	
Istle (fibre)	304,320.35	336,041.83		31,721.48
Books and prints	1,852.00	13,562.00		11,710.00
Lemons	22,132.50	38,621.50		16,489.00

Exports, by Articles—Continued.

Articles.	Last six months of 1890–91.	Last six months of 1889–90.	Increase in 1890–91.	Decrease in 1890–91.
Linseed	$1,000.00	$6,000.00		$5,000.00
Various woods	843,684.89	1,093,802.40		250,117.51
Corn	7,401.80	361.00	$7,040.80	
Manufactures	5,114.09	7,598.50		2,484.41
Marble	40,795.85	82,708.80		41,912.95
Merchandise returned	66,179.19	69,599.75		3,420.56
Bees' honey	64,985.40	66,026.36		1,040.96
Samples	5,086.90	5,126.00		39.10
Orchilla		107,651.68		107,651.68
Fine pearls	6,500.00	34,750.00		28,250.00
Hides, etc	1,087,694.84	1,058,685.31	29,009.53	
Brown (raw) sugar	24,382.58	5,303.80	19,078.78	
Live plants	10,786.00	17,017.00		6,231.00
Lead	748,124.23	334,889.98	413,234.25	
Feathers	16,179.00	2,966.00	13,213.00	
Jolop (purge) root	20,218.86	9,765.12	10,453.74	
Zacaton root	295,068.00	213,350.12	81,717.88	
Empty sacks	66.00	12,623.00		12,557.00
Hats	10,547.77	4,938.25	5,609.52	
Tobacco	658,521.14	568,966.80	89,554.34	
Vanilla	174,435.04	334,000.20		159,565.16
Securities (papers)	1,163,178.00	43,170.00	1,120,008.00	
Plaster	4,529.00	5,824.00		1,295.00
Sarsaparilla	19,745.31	7,601.03	12,144.28	
Unspecified articles	61,415.92	63,495.66		2,079.74
Totals	16,814,721.05	13,234,189.19		
Increase in articles second half of 1890–91				3,570,531.86
Totals			4,739,472.93	4,739,429.73

Decrease in exports of precious metals $3,561,095.75
Increase in exports of merchandise 3,580,531.86

Net increase in exports during second half of fiscal year 1890–91 ..... 19,436.11

FOOD PRICES IN CADIZ.

REPORT BY CONSUL TURNER.

I have the honor to hand you herewith inclosures which are useful to show the class of groceries and provisions imported into Cadiz, the retail and wholesale prices of the necessities of life, the rates of national and municipal duties collected on them, and the cost of living in Cadiz.

The first of these inclosures is the retail price list and its translation of Ed. Moyano & Company, wholesale and retail dealers in fancy groceries and provisions. This firm practically controls trade and prices, both here and at Seville, where it has a branch house.

I desire to direct special attention to the prices submitted, and also to the large quantities of foreign goods that are handled. A few of these are American, but they are bought as a rule in England. Mr. Moyano tells me that his firm has had no direct dealing with the United States, with one exception, that being a cargo of meats from the Morrisons, of Cincinnati, Ohio. These prices are on a coin basis, and are, therefore, given in dollars and cents, the Spanish dollar being equal to 96½ cents United States gold.

That we could furnish many of these articles, and save Spanish buyers a large per cent., I have no doubt, but as the channels of trade have for centuries been directed toward England and France, we need not expect them to change unless we assist in changing them. We to-day have a fair trade with Spain, not by virtue of special effort, but in spite of continued indifference. The other two inclosures are made out in pesetas, which equal 19.3 cents United States gold. They show the retail and wholesale prices of every-day staples, and the different duties that are collected on them. After presenting these tables, it is needless for me to add that the cost of living is higher here than in any other city in Europe. I trust that our exporters will give these inclosures careful attention.

R. W. TURNER,
Consul.

UNITED STATES CONSULATE,
Cadiz, October 30, 1891.

RETAIL PRICE LIST OF ED. MOYANO Y COMPANIA, WHOLESALE AND RETAIL DEALERS IN GROCERIES AND PROVISIONS, SEVILLA AND CADIZ, SPAIN.

[Inclosure 1 in Consul Turner's report.]

Current prices from which no reductions will be made.

	Unit.	*Price.*
Beer:		
Bass & Company, London—		
Quarts, bottled in London	per dozen	*$2.80
Pints, bottled in London	do	1.80
Quarts, bottled in Cadiz	do	2.40
Pints, bottled in Cadiz	do	1.20
Light table ale, pints, bottled in Cadiz	do	.80
Black beer, Guinss' stout, pints, bottled in London	do	1.80
German beer—		
Tivoli, pints, bottled in Berlin	do	1.90
Pilsener, pints, bottled in Berlin	do	1.60
Seeds:		
Garbanzos (non plus ultra)	packages of 10 kilos	3.50
Garbanzos (superior)	do	3.00
Rice (superfine)	do	1.15
Rice (superior)	do	1.00
Beans (common white)	do	.77½
Beans (Aragon blue)	do	1.55
Beans (Moncayo whites)	do	1.30
Lentil	do	.87½
Beneseed	do	2.00

*The Spanish gold dollar equals 96½ cents American.

	Unit.	Price.
Teas of China:		
Souchong	per kilo	$2.00
In packages of 50 grams		.10
In packages of 100 grams		.20
In packages of 200 grams		.40
Fine Congo	per kilo	1.50
In packages of 50 grams		.07½
In packages of 100 grams		.15
In packages of 200 grams		.30
Current Congo	per kilo	1.00
In packages of 50 grams		.05
In packages of 100 grams		.10
In packages of 200 grams		.20
Queen Imperial	per kilo	1.20
In packages of 50 grams		.06
In packages of 100 grams		.12
In packages of 200 grams		.24
Tea, Horniman—		
In packages of 125 grams		.45
In packages of 250 grams		.90
In cans of 125 grams		.50
Chocolates, in packages of 400 grams	per package	.15 to .40
Cocoa, powdered—		
In cans of ¼ pound		.27½
In cans of ½ pound		.50
Sausages:		
Pork (from Candelario)	per one-half kilo	.60
Do	per three-fifths kilo	.65
Do	per four-fifths kilo	.70
Pork (from Montanchez)	per kilo	1.05
Pork (from Montanchez) superior	do	1.20
Partly ham sausage	do	1.80
Wholly ham sausage	do	1.80
Hams:		
From Lunham Bros., Ireland	per kilo	.85
From York	do	.65
From Morrison's, Cincinnati, U. S. A	do	.55
From Asturia, Spain	do	.60
From Avileses	do	.70
Bologna sausages and spiced meats:		
From Lyons	do	1.80
From Bologna	do	1.60
From Vich, pure ham	do	1.50
From Vich, current	do	1.40
Of chicken, quail, pheasant, rabbit, hare, etc	do	.60
Tongues	do	1.90
Bologna sausage, in balls	do	1.40
In cans of 500 grams		.75
In cans of 300 grams		.45
In cans of 150 grams		.25
Bacon:		
From Cumberland, smoked	per kilo	.70
English smoked, breakfast	do	.60
Side meats	do	.40
Sugars:		
Loaf, from Cardenas	per package of 10 kilos	2.40
From Malaga	do	2.20
Powdered white	do	2.07½
Coffees, superior:		
Puerto Rico, ground or in grain	per kilo	1.10
Green	do	.75
Mocha, ground or in grain	do	
Green	do	
Caracolillo, small grain, ground or in grain	do	
Green	do	

	Unit.	Price.
Lard, refined:		
In cans of 28 pounds	per can	
In pails of 14 pounds	per ppil	
In cans of 7 pounds	per can	
In cans of 3½ pounds	do	
Butter:		
Irish, in pound cans	do	$0.60
Danish, in pound cans	do	.50
In 2-pound cans	do	.95
Sauces (from Crosse & Blackwell, London):		
Worcestershire, for meats	per bottle	.40
Imperial sauce, for meats	do	.40
Mushroom catsup, for meats	do	.40
Beefsteak, for meats	do	.40
Hawey's, for fish	do	.40
Mayonnaise, for fish	do	.40
Essence of anchovies, for fish	do	.40
Prince of Wales salad sauce	do	.40
Pickles (from Crosse & Blackwell, London):		
Mixed pickles	do	.27½
Girkins	do	.27½
French pickles of capers, onions, cucumbers, etc	do	.20
Peppers and spices:		
English ground—		
White pepper	do	.20
White pepper, Cayenne	do	.20
Black pepper, Singapore	do	.15
Do	per kilo	.80
Cloves of Zanzibar	do	.85
White pepper	do	1.20
Mixed spices, in packages of 17 grams	do	.10
Spices in grain, etc.—		
Black pepper, Singapore	do	.60
Black pepper (mother clove)	do	.40
Cloves, Zanzibar	do	.60
Nutmeg	do	1.50
Cumin	do	.25
Ginger	do	.25
Coriander	do	.25
Saffron, superior	do	24.00
Cinnamon:		
Ceylon, No. 1	do	1.20
Ground	do	1.40
China, No. 1, ground	do	.70
Unground	do	.40
Mustards, French and English:		
English, powdered, in cans of ¼ pound	per can	.15
French (prepared for use) in bottles	per bottle	.20
Essences, English, for seasoning, of lemon, vanilla, cloves, peppermint, almonds, cinnamon, ginger, and nutmeg, in small bottles	per bottle	.15
Soups (from Crosse & Blackwell, London):		
Mock turtle soup	per can	.50
Oxtail soup	do	.50
Mulligatwany soup	do	50
Canned meats (from Crosse & Blackwell, London):		
Potted ham	do	.25
Devilled ham	do	.25
Potted tongue	do	.25
Potted ham and chicken	do	.25
Potted ham and tongue	do	.25
Potte à la diable	do	.25
Potted game	do	.25
Turkey and tongue	do	.25
Beef, from Oxford	do	.60

Canned meats—Continued.	Unit.	Price.
Beef, from Cambridge	per con	$0.60
Breakfast tongues, in 2-pound cans	do	1.20
In 3-pound cans	do	1.80
Canned preserves (from Crosse & Blackwell, London):		
Raspberry	per ½-pound can	.35
Strawberry	do	.35
Damson plum	do	.35
Green gage	do	.35
Pineapple	do	.35
Plum	do	.35
Peach	do	.35
Cherry	do	.35
Gooseberry	do	.35
Orange marmalade	do	.35
Apricots	do	.35
Preserved fish:		
Foreign:		
Salmon, United States	per can of ½ kilo	.25
Lobster, United States	do	.30
Shrimp, United States	do	.35
Oysters, United States	do	.22½
Sardines, French, boneless	per can of ¼ kilo	.30
French, royal	do	.25
Domestic:		
Cod hake in oil and tomatoes	per can of ½ kilo	.25
Striped tunny, in oil and tomatoes	do	.25
Do	per can of ¼ kilo	.12½
Red-gilt-head, in oil and tomatoes	per can of ½ kilo	.25
Tunny fish, in oil and tomatoes	per can of ½ kilo	.25
Do	per can of ¼ kilo	.12½
Sardines, extra fine, in oil and tomatoes	do	.15
Of Sociedad commercial, in oil and tomatoes	do	.10
Of Cantabrico, in oil and tomatoes	do	.07½
Meats:		
Domestic—		
Partridges, in cans of ½ kilo	per can	.60
Pork, in lard, in 2-pound cans	do	1.00
Pork pudding, in 1-pound cans	do	.50
Compound chicken, in 1-pound cans	do	.50
Dressed or roast chicken, in 1-pound cans	do	.50
Ham, in lard, in 1-pound cans	do	.50
Stewed veal, in 1-pound cans	do	.45
Roast loin, in 1-pound cans	do	.50
Hen roasted, in 2-pound cans	do	.90
Extract of beef, Liebig's—		
In jars of ⅛ pound	per jar	.35
Essence of beef, in jars of ¼ pound	do	.22½
Meats of the United States—		
Pressed meat, in 2-pound cans	per can	.60
In 1-pound cans	do	.40
Hog's head meat, in 1-pound cans	do	.40
Pressed ham, in 2-pound cans	do	.80
In 1-pound cans	do	.50
Tongues for lunch, in 1-pound cans	do	.60
Foies gras—		
In jars of high form	per jar	1.00
In jars of low form	do	.80
In full cans	per can	1.30
In half cans	do	.70
Sandwich of foies gras truffés in half cans	do	.45
Vinegar:		
English imperial, in pint bottles	per bottle	.12½
French, in pint bottles	do	.20

	Unit.	Price.
Vegetables:		
French—		
Little peas, fine	per can	$0.30
Superfine	do	.40
Mushrooms, in half cans	do	.20
In bottles	do	.30
Celery, in half cans	do	.25
Asparagus, in full cans	do	.50
French beans, green, in half cans	do	.30
In flacon	do	.49
In flageolets	do	.40
Vegetable hodge-podge, in half cans	do	.30
In flacon	do	.50
Brussels cabbage, in flacon	do	.50
Spanish—		
Sweet peppers	per jar	.15
Do	per half jar	.10
Tomato paste, fine	do	.07½
Do	per jar	.10
Tomato, natural	do	.12½
Tomato, natural, Rotefio	do	.08½
Pea, fine	do	.17½
Do	per half jar	.10
Artichoke	per jar	.20
Beans, green	do	.20
Asparagus, large cans	per can	.25
Fruits:		
Spanish preserved—		
Peaches, superior	per 1-pound can	.22½
Pears	do	.17½
Plums	do	.17½
Strawberries	do	.25
Cherries	do	.25
Peaches, in bottles, corked and sealed, in sirup	per bottle	.55
Plums, in bottles, corked and sealed, in sirup	do	.55
Apricots, in bottles, corked and sealed, in sirup	do	.55
Cherries, in bottles, corked and sealed, in sirup	do	.55
Sweet potato of Malaga, in bottles, corked and sealed, in sirup	do	.55
Pears, in bottles, corked and sealed, in sirup	do	.55
Dried—		
Prunes, from Bordeaux	per kilo	.90
In transparent boxes of ½ kilo each	per box	.50
Raisins, from Esmirna	per kilo	.60
Raisins, from Corinto	do	.40
Raisins, from Malaga	do	.40
Dates, from Berberia	do	.45
Figs, from Esmirna, in small boxes	per box	.30
From Fraga, select, in small boxes	do	.60
Apples from Malaga	per kilo	.50
Plums, from Reoya	do	.40
Avellanas, from Barcelona	do	.20
Pine nuts, from Brazil	do	.17½
Cocoanuts, from Portugal	do	.25
Cheese, foreign:		
Ball	do	.60
Cream	do	.60
Gruyere	do	.80
Chester (English)	do	.90
Roquefort	do	1.00
Camembert, a very small ball for		.35
Brie	per kilo	1.20
Livarot, a very small cheese for		.35
Manchego	per kilo	.60
Parmesano	do	1.00
In liquid, bottled	per bottle	.30

	Unit.	Price.
Soups, in packages of Italian manufacture, and holding from 125 to 500 grams	per package	$0.15 to .25
Gelatine	per ounce	.17½
Flours:		
English—		
Oatmeal	per can	0.30
Finest pearl barley	do	.30
Robinson groats	do	.30
Maixena, packages of 1 pound	per package	.20
In packages of ½ pound	do	.10
Lacteated flour, children or infants'	per can	.35
Spanish—		
Castilla, No. 1	per 10 kilos	.90
Rice flour	do	.95
Milk, condensed Ango-Swiss, in 1-pound cans	per can	.27½
Powdered fruits, English, in packages, very small	per package	.15
Orange flower water	per vial	.30
Candles, English (Price):		
Palm, in packages of 6 pounds, with 36 candles	per package	1.80
In packages of 1 pound	do	.30
In packages of 14 ounces	do	.25
Tallow, in packages of 400 grams	do	.18½
In packages of 300 grams	do	.12½
In packages of 400 grams, for coaches	do	.18½
Paraffine, in packages of 5 candles	do	.12½
Petroleum, in cans of 19 litros	per can	2.70
Codfish:		
Scotch		
Norwegian, boneless	per kilo	.25
In cans of 25 pounds, boneless	per can	2.50
In cans of 12½ pounds, boneless	do	1.30
In cans of 6¼ pounds, boneless	do	.70
Salt, for table use:		
In bottles of 2 pounds	per bottle	.25
In packages of 1 pound	per package	.05
Common	per kilo	.05
Olive oil, French refined, bottles of 18 ounces	per bottle	.50
Starches, foreign:		
In packages of 2½ kilos	per kilo	.16¼
In boxes of 115 grams	per box	.05
In boxes of 230 grams	do	.08½
Soaps, for washing:		
English blue, No. 1	per 10 kilos	1.80
Pinta Sevillana, No. 1	do	2.20
Palo	per kilo	.17½
Blueing:		
In liquid	per bottle	.10
In box, powdered	per box	.20
Borax, superior	per kilo	.25
Blacking:		
Size 00	per dozen boxes	.10
Size 0	do	.12½
Size 2	do	.17½
Inks, French:		
Oriental black, jugs of ½ liter	per jug	.20
Industrial copying, jugs of ½ liter	do	.30
Pears' soaps:		
Glycerine	per cake	.12½
In boxes of three cakes	per box	.20
Sunlight, bars of 300 grams	per bar	.10

Crackers, cookies, etc. (from Huntley & Palmer's, London):

	Unit.	No. 1.	No. 2.	No. 4.
Albert	per kilo	$0.45	$0.90	$0.90
Alexander nut	do	.45	.90	.90
Boudoir	do	.45	.85	.90
Combination, 22 classes	do	.45	.90	.22½

Crackers, cookies, etc.—Continued.

	Unit.	No. 1.	No. 2.	No. 4.
Cracknel	per kilo	$0.45	$0.70	$1.05
Cocoanut	do	.45	.90	1.30
Demi-lune	do	.45	.90	1.10
Dessert	do	.45	.90	.95
Glace, mixed	do	.45	.90	1.00
Jamaica	do	.70	.90	.90
Lorne	do	.70	.90	1.30
Maizefia wafer	do	.45	.90	.90
Mixed, 16 classes	do	.60	1.10	.95
Marie	do	.45	.90	.90
Napoleon	do	.50	1.00	.90
Sponge rusk	do	.50	.85	1.30
Sugar wafers	do	.50	.95	1.40
Table	do	.50	.95	.90
Malta	do	.50	.95	.90
Maitre d'hotel	do	.60	1.20	1.30
Christmas, different classes in elegantly decorated boxes, suitable for gifts, in all prices.				
The same as the foregoing, but of Spanish manufacture, made in Madrid:				
Albert	per kilo	.30	.60	.60
Bizcochos olibet	do	.30	.60	.75
Combination	do	.30	.60	.50
Croquelles olibet	do	.35	.70	.60
Helados	do	.35	.70	.65
Maria	do	.30	.60	.60
Maizefia	do	.30	.60	.60
Media luna	do	.30	.60	.60
Macarones	do	.35	.70	.65
Platonos	do	.30	.60	.65
Gaufretes	do	.35	.70	1.05
Petit, fours suizos	do	.30	.70	1.05
Pulsera y bonitos	do	.30	.75	.75
Surtido Rico, 20 classes	do	.30	.60	.60
Surtido familia	do	.30	.60	.60
Sponge rusk	do	.60	.80	.85
Champagne	do	.30	.60	.75
The lorne	do	.25	.50	.65
Fildelfia	do	.15	.30	.25
Caprichos	do	.20	.40	.27½
El Ruisefior	do	.35	.70	.70
Petit beurre	do	.30	.60	.60
Others, of assorted classes, put up in decorated boxes suitable for presents.				

	Unit.	Price.
Mineral water:		
Apollinaris	per bottle	$0.20
Pine balsam, U. S. A	do	———
Cod liver oil, English	do	.70
Havana fruits (preserved):		
Pineapples, No. 1, in cans	per can	1.20
No. 3, in cans	do	.80
Inferior, in sirup	do	.80
Mamey, in sirup	do	.80
Cascos de Guayaba, in sirup	do	.80
Guava fruit, in 2-pound cans	do	.50
In 1-pound cans	do	.30
Jelly of Guava, in 2-pound cans	do	.50
In 1-pound cans	do	.30
Pulpa de Tamarindo, in 1-pound cans	do	.50
Chocolates (from J. Fry & Co., London):		
Chocolate cream	per kilo	1.50
In packages of 100 grams	per package	.15
Cream baton	per kilo	1.50
In packages of 100 grams	per package	.15
Creams, oriental	per kilo	1.30
In packages of 100 grams	per package	.12½

Chocolates—Continued.	Unit.	Price.
Cokert nut cream	per kilo	$1.30
In packages of 100 grams	per package	.13¼
In cakes of all sizes, prices, and qualities, ranging from $1.00 to $2.00 per kilo.		
Candy sugar:		
Rosa	per kilo	1.20
White	do	1.00
Yellow	do	.90
Candies and pastes, English, an immense variety	do	.60
Italian chocolates, in all their varieties	do	1.50 to 2.00
Swiss caramelos, all varieties	do	1.20

R. W. TURNER,
Consul.

CADIZ, *October 30, 1891.*

Wholesale and retail prices in Cadiz.

[Inclosure 2 in Consul Turner's report.]

Articles.	Unit.	Wholesale.	Retail.
		*Pesetas.	*Pesetas.
Fresh meat, average price kilogrammes	100	125.00	250.00
Salt meat do	100	400.00	500.00
Bacon do	100	158.00	200.00
Lard do	100	176.50	200.00
Hams do	100	246.50	400.00
Sausage do	100	550.00	700.00
Butter do	100	275.00	320.00
Olive oil hectoliters		127.00	150.00
Alcohol, spirits do		115.00	250.00
Liquors do		625.00	800.00
Wine, sherry (good quality) do		300.00	475.00
Wine, sherry (common) do		50.00	75.00
Vinegar do		25.00	50.00
Beer do		112.00	200.00
Rice kilogrammes	100	48.00	75.00
Rice flour do	100	93.00	100.00
Wheat do	100	30.00	32.50
Wheat flour do	100	39.00	75.00
Soup pastes do	100	395.00	400.00
Barley do	100	21.00	23.50
Indian corn do	100	20.90	23.80
Indian corn flour do	100	38.00	75.00
Starch do	100		
Bran do	100	12.50	15.00
Fresh fish do	100	50.00	100.00
Soap (common) do	100	55.05	75.00
Mineral coals (coke) ton of kilogrammes	1,000	45.00	108.00
Preserved fruits per dozen tins of ½ kilogramme each		21.00	25.00
Preserved vegetables, pickles do		15.00	21.00
Salt (common) the last of 2,300 kilogrammes		27.50	144.00
Fowls average price per each piece		1.50	3.00
Preserved meat		400.00	450.00
Candles kilogrammes	100	150.00	200.00
Cheese do	100	300.00	350.00

*The peseta equals 19.3 cents.

Wholesale and retail prices in Cadiz—Continued.

Articles.	Unit.	Wholesale.	Retail.
		*Pesetas.	*Pesetas.
Honey	kilogrammes	100	140.00	160.00
Sweetmeats	do	100	175.00	225.00
Almonds	do	100	250.00	280.00
Nuts (Barcelona)	do	100	83.00	200.00
Dates	do	100	65.00	125.00
Figs	do	100	43.00	125.00
Walnuts (out of season)				
Chestnuts (out of season)				
Fresh fruits, such as pears, apples, etc			50.00	100.00
Potatoes	kilogrammes	100	17.50	25.00
Cloves	do	100	198.15	400.00

* The peseta equals 19.3 cents.

Table showing rates of national and municipal duties and tariffs paid on the necessaries of life and staples.

[Inclosure 3 in Consul Turner's report.]

Articles.	Unit.	Octori duty.	Municipal duty.	Custom duty.	Transportation duty.	Total.
		*Pesetas.	*Pesetas.	*Pesetas.	*Pesetas.	Pesetas.
Fresh meat	kilogrammes	100	22.00		18.00		40.00
Salt meat	do	100	24.00		11.60		35.60
Pork, bacon, and lard	do	100	24.00		50.00		74.00
Hams and sausages	do	100	36.00		50.00		86.00
Butter	do	100	36.00		52.50		88.50
Oils	do	100	24.00		26.00		50.00
Alcohol, spirits*	each grade in hectoliters				42.35	3.75	46.10
Liquors	hectoliters		80.00		76.00		156.00
Wines	do		20.00		21.67		41.67
Vinegar	do		4.00		10.00		14.00
Beer and cider	do		2.30		9.75		12.05
Rice, chick peas, etc	kilogrammes	100	2.40		10.60		13.00
Flours of the above	do	100	2.40		7.15		9.55
Wheat	do	100	2.20		8.00	1.50	11.70
Wheat flour	do	100	2.20		13.20	2.25	17.65
Soup pastes, crackers, and biscuits	do	100	2.64		11.35		13.99
Barley, rye, Indian corn, etc	do	100	0.90		4.40		5.30
Their flours	do	100	0.90		7.15		8.05
Dry vegetables	do	100	0.46		3.10		3.56
Starch	do	100	2.20		9.15		11.35
Bran	do	100	0.44		0.45		0.89
Fish, fresh	do	100	12.00		1.50		13.50
Soap (common)	do	100	18.00		15.80		33.80
Charcoal	do	1,000	6.00		0.50		6.50
Coke	do	1,000	3.00		1.25		4.25
Preserved fruit	do	100	24.00		90.00		114.00
Preserved vegetables, pickles, etc	do	100	20.00		90.00		110.00
Salt (common)	do	100	9.00		10.00		19.00
Small game, each piece — pesetas 0.08, octori duty	kilogrammes	100			25.00		

* The peseta equals 19.3 cents.

Table showing rates of national and municipal duties and tariffs, etc.—Continued.

Articles.	Unit.	Octori duty.	Municipal duty.	Custom duty.	Transportation duty.	Total.
		*Pesetas.	*Pesetas.	*Pesetas.	*Pesetas.	Pesetas.
Turkey, each piece — pesetas 1.00, octori duty	kilogrammes 100			25.00		
Pheasant, each piece — pesetas 1.10, octori duty	kilogrammes 100			25.00		
Fowls, each piece — pesetas 0.20, octori duty	kilogrammes 100			25.00		
Preserved foods		50.00		90.00		140.00
Ice		4.00		free		4.00
Wax (in cakes)		38.00		16.50		54.50
Wax (worked)		38.00		33.90		71.90
Paraffin, sperm of whale, etc. (in cakes)		33.60		16.50		50.10
Paraffin, sperm of whale, etc. (worked)		33.60		33.90		67.50
Cheese		11.00		35.00		46.00
Forage		0.30		0.45		0.75
Honey			10.00	5.25		15.25
Sweetmeats			25.00	85.00		110.00
Almonds, nuts, dates, etc			16.00	2.50		18.50
Figs, walnuts, chestnuts			9.00	2.50		11.50
Bananas, pears, apples, peaches, etc			6.00	2.50		8.50
Melons, grapes, oranges, lemons, etc			3.00	2.50		5.50
Potatoes			4.00	1.20		5.20
Cloves			25.00	53.15		78.15
Alcohol, spirits, each grade in hectolitera—pesetas 1.10, octori duty*				42.35	3.75	46.10

* The peseta equals 19.3 cents.

MOVEMENT OF POPULATION ON RUSSIAN BORDERS.

REPORT BY CONSUL GENERAL CRAWFORD, OF ST. PETERSBURG.

From official data recently published I have prepared the following report treating the question of the movement of population on the borders of the Russian Empire from 1856 to 1888. The Russian officials here admit that the influence of travel to and from the empire is a matter of great importance and of great intrinsic value to the Russian people, through the exchange of goods, and especially through the exchange of ideas and of business methods.

Business men and tourists, of course, form the greater part of the mass of people traveling across the Russian borders. Emigration and immigration play only a secondary role in this problem.

The enormous and varied resources of the land in Russia are said to form the chief incentive to immigration.

Below is a table showing the movements of travellers for successive periods of 5 years:

Years.	Russians.		Foreigners.	
	Arrived.	Departed.	Arrived.	Departed.
1856	23,375	23,375	70,342	37,091
1858	70,912	78,117	201,983	165,886
1863	51,317	56,102	228,358	182,088
1868	103,888	109,640	381,885	308,471
1873	209,033	245,667	612,167	556,705
1878	307,116	343,030	595,571	494,886
1883	302,686	335,543	606,579	529,078
1888	476,876	544,201	910,333	843,433
Average for the years 1856–88	197,463	232,192	465,564	398,755

The total number of travellers passing the Russian borders in both directions during that period was 14,178,600 Russians and 28,522,531 foreigners. It is to be seen from the above that out of 100 Russians leaving their country, only 85 return, whereas of 100 foreigners arriving, 87.7 leave the country again. On each Russian leaving the country there are 2 foreigners arriving.

During the period of the 33 years above mentioned, 2,304,717 foreign immigrants remained in the empire. Deducting the Russian emigration for the same period there will be a numerical increase of 35,110 persons annually in the empire of Russia.

The greater part of foreigners remaining in this country belong to the German nationality, who usually settle in Poland and in the center of European Russia. This increase has been noticed especially since the passport facilities were granted by the late Emperor Alexander II. The increase of railways of the empire and the improvement of the means of communication has also aided to increase the number of travellers.

In comparing the number of travellers in 1856 with that of 1888, an enormous increase will be noticed.

The following table will show the exact number of travellers passing the border either with regular passports or with temporary permits:

	Russians.		Foreigners.	
	Arrived.	Departed.	Arrived.	Departed.
1886:				
Passports	56,469	79,872	237,777	178,241
Permits	319,548	332,647	502,936	446,740
1887:				
Passports	47,262	69,632	250,516	228,970
Permits	376,834	386,666	516,868	502,099
1888:				
Passports	53,760	70,586	272,478	250,579
Permits	423,116	473,615	667,853	592,854

It is in evidence that five times as many people pass the border on permits of short term as on regular passports. The regular passports are generally produced by people living near the border.

Some years ago the foreign passport fee was doubled; however it is premature to say that this is a prominent cause of the decrease of passports for the last two years.

The greater number of travellers pass the European border of Russia, only a comparatively small number crossing the Trans-Caucasian and Astrakhan boundaries.

The following table will show the difference in:

Year.	European border.		Trans-Caucasian and Astrakhan.	
	Departed.	Arrived.	Departed.	Arrived.
1886	1,073,817	1,002,986	42,813	34,514
1887	1,174,621	1,147,230	46,899	40,137
1888	1,369,069	1,347,393	48,140	40,271

As seen from the foregoing, there is an increase of travellers both in European and Asiatic Russia. Dividing these travellers according to nationalities, we obtain the following interesting table for the year 1888:

Nationality.	Arrived.	Departed.
Germans	589,349	521,189
Austrians	282,031	266,412
Persians	30,553	24,424
Turks	17,239	11,312
Roumanians	5,056	5,040
Greeks	3,619	2,958
English	3,099	2,856
French	3,018	3,130
Swiss	1,182	1,177
Italians	1,129	955

The following table will show the movements of women travellers passing the Russian borders:

Year.	Russians.		Foreigners.	
	Arrived.	Departed.	Arrived.	Departed.
1886	110,744	116,608	211,869	176,820
1887	123,819	129,047	252,523	234,248
1888	142,708	166,521	321,839	289,230

The women of Russia travel only one-third as often as the men, much less in fact than the women of other nations.

The principal places among the foreigners residing in Russia is taken by German and Austro-Hungarian subjects, which naturally is due to the mutual interests existing between adjacent countries. The other European nations, however, are well represented, as well as nearly every country in Asia.

J. M. CRAWFORD,
Consul General.

UNITED STATES CONSULATE GENERAL,
St. Petersburg, October 27, 1891.

FOREIGN COMMERCE OF COLOMBIA.

REPORT BY MINISTER ABBOTT.

I herewith transmit the statistics of this republic (exclusive of the Isthmus of Panama) for the year 1890.

A reference to previous dispatches upon statistical matters will show the method by which the figures given have been obtained and what inaccuracies may be expected.

The exports, reduced as nearly as may be to a gold basis, were $11,000,000, an increase over exports of 1889 of about $1,000,000 gold. The imports were $13,345,792, an increase of $1,568,168. The imports being $13,345,792 and the exports $11,000,000, shows a balance against Colombia of $2,345,792, or about the same as in previous years.

The decided increase in exportations is found in coffee and tobacco.

Precious metals do not vary much from those of the previous year, while hides and cocoa show a decrease.

The imports from the United States show an increase in kerosene oil, coal, flour, soap, wire fence, tin plates, and a few other articles of less prominence, and a decrease in matches, lard, sugar, machinery, beer, and textile fabrics.

On the whole, our sales in this country have not increased over those of 1889, but by the best estimates to be made from the returns have, perhaps, somewhat decreased.

For a view of the causes of the present condition of our trade with Colombia and for suggestions as to the remedy, I beg leave to refer to previous dispatches.

JOHN T. ABBOTT,
Minister.

LEGATION OF THE UNITED STATES,
Bogota, August 28, 1891.

EXPORTS.

*Statement showing the exports from Colombia during the year 1890.**

Articles.	Total exports.		Exports to the United States.	
	Kilogrammes.	Value.	Kilogrammes.	Value.
Animal products—				
Animals:				
Beeves	2,299,940	$255,101		
Birds	14,271	7,225		
Goats	530	117		
Hogs	13,160	4,215		
Horses	1,290	440		
Parrots	10	40		
Various	8,800	69,638		
Birdskins	3,331	28,510	15	$19
Bones	161,228	4,100	109,726	1,540
Butterflies	60	150		
Eggs	1,421	707		
Feathers	100	1,950		
Fish	1,325	368		
Hides and skins of—				
Cattle	3,371,700	987,131	3,163,037	922,355
Deer	1,885	994		
Goats	18,547	17,592	100	80
Various	36,839	17,514	16,605	11,845
Horns	16,366	5,593		
Horsehair	3,418	2,400	1,708	1,257
Meat	1,260	284		
Shells	92	134		
Tallow	400	112		
Wool	130	76		
Totals	5,956,103	1,404,391	3,291,191	937,096
Manufactured products:				
Books	60	200		
Canoes	2,000	80		
Cassava	130	41		
Cheese	3,735	1,178		
Cordage	1,000	300		
Fibres	1,472	470	622	170
Gold (manufactured)	†	5,516		
Hats	61,617	135,539		
Jewelry	579	7,352		
Liquors (various)	1,740	799		
Mats	750	249		
Oils	18	15		
Provisions	17,860	2,200		
Rum	10,165	5,610	57	50
Soap	100	18		
Starch	167,179	19,567	3,720	342
Sugar	185,904	30,958	1,423	145
Sweetmeats	1,180	1,175	60	30
Tobacco (manufactured)	3,596	4,263		

*The Isthmus of Panama, being a free zone, is not included in this or folowing tables. †Weights not reliable.

Statement showing the exports from Colombia, etc.—Continued.

Articles.	Total exports.		Exports to the United States.	
	Kilogrammes.	Value.	Kilogrammes.	Value.
Miscellaneous products—Continued.				
Tortoise shell	1,216	$11,885	148	$600
Vermicelli	2,210	1,888		
Various	22,461	4,365	3,040	1,500
Totals	484,972	233,668	9,070	2,837
Mineral products:				
Emeralds	*	12,864		
Gold (unspecified)	* 36	183,403	* 30	61,368
Gold (in bars)	*	1,921,337	*	29,811
Gold dust	*404	338,389	*108	56,104
Gold and silver bars	*	372,023	* 96	6,380
Platinum	* 19	6,970	* 5	1,600
Silver (in bars)	*	682,037	*553	45,184
Silver (auriferous)	*	61,482		
Silver and gold	* 96	11,974		
Ore (presumably gold)	1,153,968	645,013	195,635	121,860
Various	*	37,491		
Totals	*1,154,523	4,272,983	*196,427	322,307

NOTE.—The Colombian Foreign Office gives the gold and silver exports as follows:

Gold bars		3,104,148		
Gold dust		401,188		
Silver bars		1,058,566		
Ores		664,076		
Gold coin		183,759		
Silver coin		399,099		
Gold manufactured		40,701		
Totals		†5,851,537		
Vegetable products:				
Algaroba	46			
Balsams	171,129	189,048	36,012	37,761
Barks	240	10		
Beans	18,165	2,020		
Brazil wood	249,047	10,241	102,500	4,250
Cocoa	270,366	189,452	159,834	100,110
Canime	4,300	2,980	3,580	1,900
Cedar	1,075,484	25,395	1,057,534	24,785
Cocoanuts	546,591	40,807	536,159	39,117
Coffee	9,388,012	4,262,030	6,027,717	2,384,353
Corn	36,957	4,192	2,280	136
Cotton	880,136	304,351	11,224	3,928
Cotton seed	1,523,601	68,050	24,800	992
Dividivi	2,112,934	106,851	52,610	3,440
Fruits	98,583	2,545		

* Weights not reliable. †Deducting the coin, these figures exceed those above given by about $1,000,000.

Statement showing the exports from Colombia, etc.—Continued.

Articles.	Total exports.		Exports to the United States.	
	Kilogrammes.	Value.	Kilogrammes.	Value.
Vegetable products—Continued.				
Guayacan wood	575,150	$9,232		
Indigo	2,296	2,750		
Ipecacuanha	976	2,780		
Ivory nuts	6,343,347	341,418	1,315,749	$72,296
Mahogany	986,857	21,865	986,857	21,865
Mora wood	1,895,453	36,973	352,551	10,155
Plants	96,660	90,928	11,780	32,488
Quinine bark	7,270	4,880		
Rice	5,685	1,419		
Rubber	483,679	474,182	249,298	245,326
Seeds	6,258	596		
Sleepers (railroad)	1,019,830	60,806	19,960	5,388
Spices	3,100	1,780		
Sugar cane	29,775	1,114		
Tobacco	4,307,725	1,820,757	46,808	45,582
Wax	70	35		
Woods (various)	4,442,033	99,984	3,853,492	85,023
Yams	29,000	2,385		
Various	49,984	1,790		
Totals	36,660,739	8,183,646	14,850,745	3,118,895
Miscellaneous products:	95,266	45,711	6,729	3,732
Money—				
Gold coin	*348	143,525	*236	37,597
Gold and silver coin	*	16,606		
Silver coin	*9,515	740,727	*5,680	207,930
Bills	* 63	112,990	* 60	5,000
Unspecified	*178	11,116	* 10	1,086
Totals	10,104	1,024,964	*5,986	251,613

RECAPITULATION.

Animal products	5,956,103	1,404,391	3,291,191	937,099
Manufactured products	484,972	233,668	9,070	2,837
Mineral products	*1,154,523	4,272,983	*196,427	322,307
Vegetable products	36,660,739	8,183,646	14,850,745	3,118,895
Miscellaneous products	95,266	45,711	6,729	3,736
Money	*10,104	1,024,964	*5,986	251,613
Exports from Cúcuta; details not obtainable.	4,631,634	2,417,809		
Totals	48,993,341	17,583,172	18,360,148	4,636,480

* Weights not reliable.

EXPORTS BY PORTS IN 1890.

Ports.	Quantities.	Values.
	Kilogrammes.	
Arauca	42,941	$15,679
Barranquilla	19,727,967	11,605,459
Buenaventura	1,128,261	688,783
Cartagena	17,037,840	2,258,380
Cúcuta	4,631,634	2,417,809
Ipiales	315,738	106,283
Orocué	164,807	85,602
Rio Hacha	2,734,038	233,623
Santa Marta	160,117	15,365
Tumaco	3,049,998	156,189
Totals	48,993,341	17,583,172

EXPORTS OF COLOMBIA, BY COUNTRIES.

Statement showing the weight and value of the exports from the Republic of Colombia during the year 1890, to the several countries.

Countries.	Quantities.	Values.
	Kilogrammes.	
England	6,247,355	$4,835,321
United States	18,360,148	4,636,480
Germany	9,806,745	2,475,388
France	2,616,686	1,566,636
Costa Rica	2,311,162	240,210
Dutch Antilles	572,855	191,934
Spanish Antilles	180,581	184,648
Ecuador	315,760	106,983
Venezuela	166,172	87,567
British Antilles	707,410	55,440
Peru	813,322	30,680
French Antilles	38,469	17,668
Italy	7,645	5,065
Spain	9,800	4,434
Mexico	6,728	3,340
Salvador	3,207	2,680
Belgium	4,550	2,180
Chili	1,782	1,343
Danish Antilles	4,252	421
Unspecified	1,838,390	73,162
From custom houses of Cúcuta and Arauca (details not obtainable)	4,674,575	2,433,488
Isthmus of Panama and Colombia	305,747	628,104
Totals	48,993,341	17,583,172

IMPORTS OF COLOMBIA.

Statement showing the imports by articles into the Republic of Colombia for the year 1890. Values of separate articles not obtainable.

Articles.	From the world.	From the United States.
Animals:	*Kilogrammes.*	*Kilogrammes.*
Cattle	1,600	
Hogs	294	294
Mules	200	
Unclassified	6,510	1,060
Total	8,604	1,354
Combustibles:		
Candles	263,922	9,673
Coal	899,349	431,386
Fireworks	3,862	2,009
Fulminators	5,912	272
Kerosene oil	1,098,970	1,052,944
Matches	207,692	14,772
Unclassified	33,213	52
Total	2,512,920	1,511,108
Cosmestibles:		
Apples	1,132	1,022
Barley	2,519	952
Biscuits and crackers	48,912	17,543
Butter	10,341	4,875
Cheese	5,820	371
Coffee	135	
Condensed milk	552	552
Confectionery and dulces	16,359	2,280
Corn	1,257	1,257
Cummin seed	19,057	1,701
Fish	12,035	2,960
Flour	2,506,357	2,408,597
Fruits	12,156	6,590
Garlic	9,943	2,133
Hams	6,694	717
Lard	57,190	50,898
Meal	11,975	9,565
Nuts	9,062	286
Olive oil	49,378	3,216
Olives	7,556	41
Onions	11,922	9,848
Pickles	23,466	775
Potatoes	56,570	27,614
Preparations of meat, soups, etc	51,890	7,133
Raisins, prunes, etc	20,182	1,017
Rice	385,842	42,518
Salted meats	6,965	3,150
Sardines	79,670	4,547
Spices, condiments, and groceries	115,765	22,192

Statement showing the imports by articles into the Republic of Colombia, etc.—Continued.

Articles.	From the world.	From the United States.
	Kilogrammes.	*Kilogrammes.*
Comestibles—Continued.		
Sugar	382,048	308,817
Tea	6,310	270
Vermicelli	11,117	2,322
Vinegar	5,557	75
Unclassified	319,977	101,750
Totals	4,265,711	3,048,042
Drugs, medicines, and chemicals:		
Aqua divina	3,439	----------
Alcohol	7,511	4,571
Almond oil	7,709	1,376
Alum	6,722	5,980
Ammonia	460	----------
Anise	26,851	8,549
Camphor	216	96
Castor oil	5,594	977
Caustic soda	119,485	20,670
Chalk	1,830	551
Cod liver oil	2,314	1,039
Dynamite	14,700	540
Florida water	39,156	20,611
Glue	825	502
Gypsum	2,705	896
Kanauga water	3,950	429
Lime	9,742	----------
Linseed oil	41,304	24,619
Lubricating oil	28,063	24,852
Nitre	27,744	565
Oils (various)	18,054	3,694
Paint	95,399	63,378
Perfumery	28,412	2,617
Poison for hides	864	807
Powder	62,225	23,624
Salt	5,021,767	----------
Saltpetre	7,855	1,275
Sarsaparilla	1,051	994
Soap	179,871	75,282
Soda	36,628	14,209
Sulphur	7,538	1,610
Turpentine	18,114	15,744
Varnish	27,401	14,762
White lead	3,048	182
Unclassified	506,169	194,642
Totals	6,364,716	529,643
Glassware, crockery, etc.:		
Bottles	187,866	26,412
Crockeryware	827,519	3,719
Demijohns	122,943	632

Statement showing the imports by articles into the Republic of Colombia, etc.—Continued.

Articles.	From the world.	From the United States.
	Kilogrammes.	*Kilogrammes.*
Glassware, crockery, etc.—Continued.		
Ink stands	889	----------
Lamps	17,115	10,447
Lamp chimneys	4,799	3,503
Lanterns	3,388	1,127
Mirrors	41,350	1,349
Spectacles	521	114
Window glass	55,825	4,732
Unclassified	194,880	71,800
Total	1,457,095	123,835
Iron and steel:		
Anchors	3,092	299
Axles	9,062	194
Bedsteads (iron)	15,182	391
Bits (bridle)	2,415	----------
Bolts	262	89
Bridges	24,085	18,790
Buckles	13,268	1,109
Cables	3,825	711
Chains	9,298	5,248
Copy presses	3,840	1,270
Cutlery	46,151	1,975
Firearms	17,212	1,692
Fishhooks	1,423	16
Flatirons	88,094	6,482
Fountains	9,644	8,813
Grates for ranges	759	209
Hardware	167,709	14,286
Hinges	42,249	7,422
Hooks and rings	8,695	5,508
Horseshoes	3,524	----------
Iron—		
Bars	36,016	2,681
Dishes and pans	152,144	7,215
Houses	11,408	----------
Manufactured	575,692	102,691
Pipe	378,449	15,059
Plate	139,524	7,791
Roofing	180,716	6,992
Unmanufactured	797,765	375,776
Lamps	11,485	5,244
Lightning rods	382	52
Locks	43,915	3,250
Machinery—		
Agricultural	23,493	9,628
Artesian well	1,661	1,661
Brick making	11,790	1,498
Coffee	39,630	4,529
Corn shelling	2,595	2,595
Electric light	3,689	290

Statement showing the imports by articles into the Republic of Colombia, etc.—Continued.

Articles.	From the world.	From the United States.
	Kilogrammes.	*Kilogrammes.*
Iron and steel—Continued.		
Fire engines	1,235	1,194
Flour mills	737	----------
Ice machines	25,767	24,610
Industries for	128,014	72,756
Locomotives	142,759	95,123
Mills	780	529
Mining	53,968	9,412
Printing presses	15,141	6,508
Pumps	31,613	9,082
Sewing machines	139,760	123,383
Steam engines	307,708	71,788
Sugar mills	66,064	26,633
Threshing	12,649	1,992
Type-writers	220	70
Water motors	5,265	261
Unclassified	178,046	79,603
Nails	250,363	22,441
Needles	3,226	155
Ovens	250	----------
Pails	927	60
Pens	2,142	----------
Rails (R. R.)	917,369	----------
Rivets	12,345	281
Safes	13,531	6,056
Scales	47,827	12,574
Scissors	21,362	1,823
Screws	6,234	1,834
Steel—		
Bars	31,534	439
Manufactured	9,207	63
Plates	59,127	----------
Unmanufactured	29,650	1,028
Steelyards	949	436
Stoves	5,609	834
Tacks	19,359	1,194
Tanks	4,059	1,290
Tools	----------	----------
Agricultural—		
Hoes	85,855	2,578
Machetes	129,623	28,615
Picks	4,854	1,549
Plows	1,367	1,196
Sickles	14,971	----------
Shovels	42,614	4,272
Unclassified	50,036	15,331
Blacksmiths'—		
Anvils	2,200	109
Forges	3,823	562
Unclassified	10,112	2,221
Carpenters'—		
Axes and adzes	50,480	8,726

Statement showing the imports by articles into the Republic of Colombia, etc.—Continued.

Articles.	From the world.	From the United States.
	Kilogrammes.	*Kilogrammes.*
Iron and steel—Continued.		
Files	12,270	345
Saws	7,919	1,716
Unclassified	46,339	13,957
Masons'	1,149	691
Mining—		
Drills	9,064	115
Unclassified	23,101	----------
Shoemakers'	526	----------
Unclassified	55,981	12,681
Wheels (iron)	28,317	8,338
Wire	40,498	15,054
Wire fence	494,214	346,713
Total	6,580,252	1,662,274
Leather, etc.:		
Boots and shoes	61,403	1,265
Boots and shoes (rubber)	1,752	334
Harnesses	959	128
Leathers—		
Manufactured	28,335	865
Unmanufactured	74,683	496
Saddles	8,816	279
Total	175,948	3,367
Liquors:		
Beer	920,362	95,934
Brandy	478,741	146
Gin	13,742	44
Ginger ale	1,767	27
Lemonade	286	----------
Mineral water	3,316	281
Rum	790	----------
Whisky	3,490	137
Wines	2,767,022	10,097
Unclassified	79,766	3,820
Total	4,269,282	110,486
Materials and supplies:		
Agricultural	69,179	27,848
Blacksmiths'	1,765	156
Carpenters'	15,976	4,690
Dentists'	4,620	3,261
Druggists'	6,156	360
Electrical	25,784	25,051
Mining	277,857	101,762
Office	38,903	2,433
Photographers'	4,697	2,099
Printers'	4,710	3,109

Statement showing the imports by articles into the Republic of Colombia, etc.—Continued.

Articles.	From the world.	From the United States.
	Kilogrammes.	*Kilogrammes.*
Materials and supplies—Continued.		
Railroad	147,334	106,023
Surgeons'	1,051	117
Teachers'	32,038	
Telegraph	30,277	7,586
Unclassified	63,122	12,809
Total	723,469	297,384
Metals (other than iron and steel):		
Bedsteads (brass)	1,311	
Bells	2,782	797
Candlesticks	1,060	266
Clocks and watches	10,584	7,168
Copper—		
Leaves	42,491	125
Manufactured	47,512	6,886
Pipe	3,583	
Unmanufactured	3,434	
Utensils	8,139	192
Unclassified	9,407	361
Gold—		
Bars	315	
Coin	14	14
Jewelry	889	56
Manufactured	417	
Hooks and eyes	3,132	
Jewelry (cheap)	6,546	384
Lamps	7,910	2,007
Lead—		
Bars and ingots	353,259	1,230
Capsules	4,255	218
Leaves	2,877	
Manufactured	4,714	316
Pipe	9,889	96
Unclassified	32,360	
Pins	538	
Quicksilver	13,187	2,293
Silver—		
Bars	1,994	
Coin	183	
Jewelry	13	
Ware	375	
Solder	403	172
Spurs	736	
Stills	5,790	389
Stirrups	11,333	
Thimbles	694	
Tin—		
Bars and ingots	1,351	155
Plate	70,152	2,091
Unclassified	9,331	

Statement showing the imports by articles into the Republic of Colombia, etc.—Continued.

Articles.	From the world.	From the United States.
	Kilogrammes.	*Kilogrammes.*
Metals—Continued.		
Tinware	5,397	555
Zinc—		
Leaves	22,618	3,099
Manufactured	6,432	428
Total	707,407	29,298
Miscellaneous:		
Artificial flowers	1,776	58
Baskets	1,633	262
Bird seed	4,465	2,477
Blacking	8,081	6,180
Bricks and tiles	996,730	114,739
Brooms	3,126	2,678
Brushes	3,165	288
Buttons	23,525	----------
Carriages and carts	46,155	13,971
Cars (R. R.)	208,907	129,279
Cars (tramway)	26,655	5,324
Cement	153,833	17,045
Colored earths	1,280	425
Combs	13,660	3
Cordage, rope, etc	77,091	41,298
Corks	17,604	981
Crucibles	1,305	65
Fans	2,074	547
Fibers (manufactured)	6,262	104
Grindstones, etc	2,920	1,503
Gums	6,355	835
Hat palm	32,303	290
Hats	48,060	1,530
Hay	1,700	860
Hops	6,293	645
Ink	22,739	5,747
Kitchen utensils	117,851	10,814
Lampblack	450	216
Marble and its manufactures	78,748	3,757
Mats	11,390	4,659
Munitions	83,026	8,367
Oakum	13,293	7,321
Plants	3,543	175
Printers' ink	2,955	1,073
Roman ochre	69,240	54,000
Rubber hose	16	16
Samples	13,244	1,256
Sealing wax	562	17
Seeds	7,075	844
Slate and pencils	9,365	1,139
Stones for filters	5,593	----------
Tallow	14,466	14,195
Tar, pitch, and resin	228,109	16,988

Statement showing the imports by articles into the Republic of Colombia, etc.—Continued.

Articles.	From the world.	From the United States.
	Kilogrammes.	*Kilogrammes.*
Miscellaneous—Continued.		
Toys	16,774	2,342
Velocipedes	604	419
Wax	2,000	194
Wheelbarrows	12,800	10,195
Unclassified	199,880	44,395
Total	2,608,681	729,516
Musical instruments:		
Accordions	1,829	48
Harmonicas	2,184	17
Music boxes	331	----------
Organs	5,178	920
Pianos	53,201	5,041
Unclassified	5,827	8
Total	68,550	6,034
Paper:		
Advertisements	20,416	12,799
Blank books	27,036	1,147
Blotting paper	627	118
Books	52,284	6,355
Cigarette paper	2,019	----------
Drawing paper	1,132	27
Envelopes	3,459	818
Maps	161	41
Music	942	5
Pasteboard	28,819	2,474
Playing cards	7,431	149
Printing paper	153,484	21,161
Sandpaper	4,028	1,300
Wall paper	95,884	1,157
Wrapping paper	44,060	17,540
Writing paper	157,666	10,462
Unclassified	49,505	5,305
Total	648,953	80,948
Textile fabrics:		
Cotton—		
Blankets	6,803	----------
Canvas	1,098	341
Clothing	262,969	4,432
Fabrics	4,185,796	141,448
Handkerchiefs	76,306	988
Laces and braids	57,828	304
Ribbons	5,143	----------
Shawls	3,907	35
Tape	1,878	----------
Thread	123,668	3,063
Wicks	35,050	2,225
Unclassified	17,305	1,158

Statement showing the imports by articles into the Republic of Colombia, etc.—Continued.

Articles.	From the world.	From the United States.
	Kilogrammes.	*Kilogrammes.*
Textile fabrics—Continued.		
Hemp and linen:		
Bags	207,114	2,523
Canvas	1,552	247
Carpets	13,809	74
Clothing	15,809	28
Fabrics	373,291	2,790
Jeniquén	17,250	4,806
Pack cloth	125,673	11,660
Thread	7,888	276
Unclassified	9,890	
Oilcloth	13,412	3,085
Rubber goods	128,849	2,634
Silks:		
Clothing	9,617	90
Fabrics	9.107	77
Handkerchiefs	2,021	
Ribbons	6,067	40
Thread	1,795	
Unclassified	2,136	
Woolens:		
Blankets	21,980	
Carpets	31,316	315
Clothing	79,454	116
Fabrics	335,682	3,305
Hats	4,694	41
Lace	7,499	
Shawls	55,041	72
Yarns	24,847	1,453
Unclassified	14,480	29
Umbrellas	23,954	
Unclassified	18,534	
Total	6,340,512	187,655
Tobacco:		
Gigarettes	93,785	2,278
Cigars	4,176	692
Tobacco for cigarettes	7,555	2,988
Tobacco	73,272	67,086
Total	178,788	73,044
Wood, lumber, etc.:		
Barrels and staves	1,878	389
Billiard tables	5,010	1,391
Boats	129,861	124,515
Boxes	25,301	22,170
Canes	208	1
Construction woods	674,410	435,359
Furniture	123,712	50,825
Lasts	1,858	

Statement showing the imports by articles into the Republic of Colombia, etc.—Continued.

Articles.	From the world.	From the United States.
	Kilogrammes.	*Kilogrammes.*
Wood, lumber, etc.—Continued.		
Machines	2,584	
Masts	5,049	99
Moldings and frames	19,204	2,712
Pails	206	206
Pencils	621	7
Pitch pine	85,040	84,998
Telephones	456	331
Trunks	578	24
Windmills	1,551	960
Unclassified	35,458	12,762
Total	1,112,985	736,749

RECAPITULATION.

Articles.	From the world.	From the United States.
	Kilogrammes.	*Kilogrammes.*
Animals	8,604	1,354
Combustibles	2,512,920	1,511,108
Comestibles	4,265,711	3,048,042
Drugs, medicines, and chemicals	6,364,716	529,643
Glassware, crockery, etc	1,457,095	123,835
Iron and steel	6,580,252	1,662,274
Leather	175,948	3,367
Liquors	4,269,282	110,486
Materials and supplies	723,469	597,304
Metals (other than iron and steel)	707,407	29,298
Miscellaneous	2,608,681	729,516
Musical instruments	68,550	6,034
Paper	648,953	80,948
Textile fabrics	6,340,512	187,655
Tobacco	178,788	73,044
Wood, lumber, etc	1,112,985	736,749
Totals	38,023,873	9,130,657
Add Cúcuta and Arauca (no details)	5,389,504	
Grand total	43,413,377	

IMPORTS BY COUNTRIES.

Statement showing the weight and value of the imports into the Republic of Colombia during the year 1890, by countries.

Countries.	Kilogrammes.	Values.
Germany	4,606,689	$1,636,019
British Antilles	5,961	209
Spanish Antilles	231,589	137,456
Dutch Antilles	445,491	102,006
Belgium	14,285	5,336
Costa Rica	140	187
Chili	21,865	532
Ecuador	196,957	143,943
Spain	1,526,385	321,087
United States	9,130,657	1,218,466
France	4,750,227	2,713,046
Great Britain	11,622,777	4,990,198
Italy	140,152	27,193
Peru	3,039,122	74,252
Venezuela	1,939,463	?
Columbia (Isthmus)	352,113	104,354
Unspecified (Cúcuta)	5,389,504	1,871,508
Totals	43,413,377	13,345,792

NAVIGATION BY PORTS.

Statement showing the number and tonnage of ships entered at Colombian ports (exclusive of the Isthmus of Panama) during the year 1890.

Ports.	Entered.				Totals.	
	Steamers.		Sailing vessels.			
	No.	*Tonnage.*	*No.*	*Tonnage.*	*No.*	*Tonnage.*
Baranquilla	218	358,626	23	6,883	241	365,509
Buenaventura	72	42,311	62	2,280	134	44,591
Cartagena	226	302,977	37	6,645	263	309,622
Rio Hacha	------	------	152	9,776	152	9,776
Santa Marta	19	29,796	72	3,530	91	33,326
Tumaco	91	42,073	50	1,961	141	44,034
Totals	626	775,783	396	31,075	1,022	806,858

NAVIGATION BY FLAGS.

Statement showing the number and tonnage of ships entered at Colombian ports (exclusive of the Isthmus of Panama) during the year 1890.

Nations.	Entered.				Totals.	
	Steamers.		Sailing vessels.			
	No.	*Tonnage.*	*No.*	*Tonnage.*	*No.*	*Tonnage.*
Germany	62	94,746	15	4,476	77	99,222
Colombia	36	3,650	202	9,933	238	13,583
Chili	36	17,330			36	17,330
Denmark			4	1,263	4	1,263
Ecuador			5	633	5	663
Spain	65	103,326			65	103,326
United States			14	2,857	14	2,857
France	71	146,163	2	811	73	146,974
Great Britain	355	409,860	18	4,657	373	414,517
Holland			42	1,890	42	1,890
Peru			18	1,135	18	1,135
Norway			7	2,285	7	2,285
Sweden	1	708	1	216	2	924
Venezuela			68	919	68	919
Totals	626	775,783	396	31,075	1,022	806,858

DUTIES ON IMPORTS.

Statement showing the weight and value of imports and the dues collected thereon in the Republic of Colombia during the year 1890.

Custom houses.	Kilogrammes.	Value.	Dues collected.
Arauca	122,932	$60,955	$15,126
Baranquilla	21,803,699	8,987,922	6,345,433
Buenaventura	4,304,922	602,248	414,813
Cartagena	7,321,073	1,416,665	938,011
Cúcuta*	7,125,398	1,750,596	624,220
Ipiales	81,939	80,282	27,817
Orocué	155,792	59,957	27,019
Rio Hacha	426,778	92,270	72,499
Santa Marta	950,019	84,512	91,205
Tumaco	1,120,825	210,395	71,545
Totals	43,413,377	13,345,792	8,627,688

* Of the imports to Cúcuta there were consumed in Colombia 3,692,476 kilos, valued at $1,258,981, and there were re-exported to Venezuela 2,438,347 kilos, valued at $603,484; but these figures take into account amounts in custom house January 1, 1890, and January 1, 1891, and so do not correspond with the table.

BRADFORD-AMERICAN TRADE.

Statement showing the value of declared exports from the Consular District of Bradford to the United States during the four quarters of the year ending September 30, 1891.

Articles.	Quarters ending—				Totals.
	Dec. 31, 1890.	March 31, 1891.	June 30, 1891.	Sept. 30, 1891.	
Animals			$769.64	$84.92	$854.56
Card clothing	$18,814.45	$25,290.90	25,464.47	20,336.31	89,906.13
Carpets and rugs	14,541.65	47,613.28	11,252.16	45,265.02	118,672.11
Chemicals	1,132.11	4,353.77	1,548.68	2,528.06	9,562.62
Cotton goods	34,478.34	106,648.33	78,608.81	106,687.30	326,422.78
Cow and calf hair	13,905.37	10,086.10	9,972.37	1,913.52	35,877.36
Dyestuffs			1,849.28	900.30	2,749.58
Grease, etc	10,803.88	6,736.17	10,590.82	7,254.10	35,384.97
Hair cloths	3,956.92	2,934.88	3,108.21	3,521.37	13,521.38
Hemp bagging	82.94	245.82	348.80	79.15	756.71
Iron, steel, etc	52,512.41	46,459.09	49,468.06	41,533.95	189,973.51
Leather	4,792.26	8,362.21	7,223.61	6,674.25	27,052.33
Machinery	99,725.37	205,976.65	184,970.36	139,760.02	630,432.40
Miscellaneous	972.61	724.02	3,575.27	681.18	5,953.08
Mohair goat's hair	34,097.70	59,871.18	21,505.60	35,005.63	150,480.11
Noils		1,900.19	3,878.53		5,778.72
Oilcake	2,892.16		532.13	2,495.13	5,919.42
Paper	1,226.16	2,220.88	2,358.26	1,035.22	6,840.52
Rags	5,633.19	2,196.85		3,469.83	11,299.87
Reeds and healds		181.91	111.93		293.84
Shawls, etc		150.01	1,069.16		1,219.17
Silk seals, plushes, etc	71,774.67	78,485.13	28,042.36	54,899.98	233,202.14
Silk waste	886.35	2,042.14	1,779.84	2,637.56	7,345.89
Stuff goods	1,084,830.08	1,097,361.08	1,133,631.67	1,316,639.76	4,632,462.59
Tape, braid, etc	754.71	786.69	1,295.34	574.98	3,411.72
Tapestry, damasks, etc	3,880.62	1,056.76	189.00	6,048.74	11,175.12
Waste (worsted)	576.13		901.10	241.25	1,718.48
Wool	95,933.29	151,050.58	324,827.28	341,652.80	913,463.95
Woolen goods	20,357.48	26,187.81	46,942.44	25,156.88	118,644.61
Worsted coatings	524,232.01	423,551,86	632,176.07	942,956.13	2,522,916.07
Yarns (silk)	88,965.13	148,529.70	193,978.70	150,878.95	582,352.48
Yarns (worsted and mohair)	31,795.85	51,642.92	59,109.52	60,038.17	202,586.46
Yarns (other)	1,577.92	20,963.93	21,570.68	16,292.10	60,404.63
Totals	2,225,131.76	2,533,610.84	2,862,650.15	3,337,242.56	10,958,635.31
Same periods 1889-90	5,899,098.04	4,669,677.51	6,577,635.10	6,541,610.98	23,688,021.63

Decrease, $12,729,386.32.

JOHN A. TIBBITS,
Consul.

UNITED STATES CONSULATE,
Bradford, October 15, 1891.

EXPORTS FROM FRANCE

Statement showing the value of declared exports from the Consular Districts

Articles.	Paris.	Bordeaux.	*Cannes.	Cognac.	Havre.	Limoges.
Albumen	$32,903					
Argols and cream of tartar	72,630	$161,100				
Art, works of	1,753,497				$1,500	
Books and engravings	353,991					
Boots, shoes, and leather manufactures	47,200					
Brandy and liquors	14,219	71,237		$978,846	20,245	$708
Bristles	159,698				27,023	
Buttons and trimmings	1,514,074					
Carpets	80,165					
Carriages	29,090					
Cheese	1,125				19,457	
Chemicals not elsewhere specified	235,343					
Church ornaments and metallic trimmings	415,096					
Cocks and watches, and materials of	268,618					
Coffee					1,690,544	
Corks		2,441				
Corsets	317,750					
Costumes and dresses	356,876		$154			
Cotton goods	294,397				104	
Drugs and medicines	183,131	97,110			14,026	
Dye stuffs	101,899				84,709	
Fancy goods	1,565,197					
Feathers and flowers, artificial, and millinery	2,297,025				37,058	
Furniture, cabinet woods, and household goods	424,093		856		400	
Glass, porcelain, and potteries	406,245		27,844			700,464
Gloves	803,194			1,936		
Glue	97,236					
Gum, Senegal						
Hair, human	94,074				1,249	
Hair, animal and vegetable	18,885					
Hardware, machinery, manufactures of metal	241,512	43,465		1,462		
Hatters' goods and furs	1,574,876					21,956
Horses for breeding purposes	334,070				198,442	
Hosiery	332,766					
India-rubber	57,529				114,003	
Jewelry and precious stones	4,141,003					
Laces, tulles, and crapes	1,030,077		518			
Linen goods	282,837					
Macaroni	2,900	6,954				
Merinos, cashmeres, and miscellaneous dress goods	6,937,989					
Millstones, plaster, and cement	19,440					
Miscellaneous goods	1,629,819	249,307	3,556	130	11,171	
Musical instruments	163,545				1,199	
Nickel					64,777	
Oils, except essential	9,125	253,327	38,752	1,676		
Optical and scientific instruments	649,574					
Ores						
Paints and colors	145,582		3,825			

* Formerly a consular agency under Nice.

TO THE UNITED STATES.

of France to the United States during the year ending June 30, 1891.

Lyons.	Marseilles.	Nantes.	Nice.	Rheims.	† Roubaix.	Rouen.	St. Étienne.	Total for the year.
								$32,903
$182,869	$76,785							493,384
		$2,471	$174	$10,600				1,768,352
		10,016						364,007
					$292			47,492
	70,170		225	1,841	36	$24,289	$36,869	1,218,685
								186,721
				4,421	326		282,199	1,801,020
					1,271			81,436
								29,090
							63,028	83,610
40,929	377,287	7,581		6,771	36,803	28,397		733,111
281,600		1,831						698,527
112			116					268,846
								1,690,544
	445							2,886
				1,023				318,773
			4,535					361,565
3,170				63,033	12,175			372,879
	64,364			1,375				360,006
44,426	1,171							232,205
265	7,546		125	4,989			10,966	1,589,088
					191			2,334,274
858		77	5,802					432,086
		5,618	1,706	411,100	1,973			1,529,950
	3,993			238,834	5,567	14,072	1,489,954	2,557,550
50,152	11,827	3,453						162,668
	5,835							5,835
								95,323
9,734	81,445				7,701			117,765
93,381		1,029		43,650	101,866		2,125	528,490
1,251				13,585				1,611,668
					12,873	6,158		551,543
				590,804	1,967			925,537
	2,301			13,584				187,417
10,836		2,121						4,153,990
60,519			174		29,805	1,741,580	260,070	3,122,743
			57		5,298			288,192
98,511	94,583							202,948
	776			398,483	539,683	375,219		8,252,150
	10,020				258			29,718
119,758	61,685	8,242		4,822	234,294	55,239	22,359	2,445,382
12,802		1,320		968	183	8,024		188,041
								64,777
	173,230		23,915					500,025
26,554								676,128
	19,178							19,178
1,240	32,669	10,838						194,154

† Formerly a consular agency under Rouen.

EXPORTS FROM FRANCE TO THE

Statement showing the value of declared exports from the

Articles.	Paris.	Bordeaux.	*Cannes.	Cognac.	Havre.	Limoges.
Platinum	325,973					
Preserved fruits and vegetables	159,585	676,401			17,162	5,104
Preserved meat and sardines	13,679	439,573			331	
Prunes, raisins, nuts, etc		1,262,385	784		23,461	13,685
Rags and old paper	40,252	53,493				
Salt						
Seeds and plants	182,149				16,167	106
Shawls	436,296					
Silk, raw, waste, silk combed	3,575					
Silk, pierced cocoons						
Silk, manufactures of	750,320					
Skins, hides, and leather	1,693,453	186,058			65,091	
Soap ordinary						
Soap grease from the skin of sheep						
Stationery and paper	80,216	82,043		1,095		390
Straw goods	16,807					
Sugar and confectionery	100,942		507		476	
Tin and tinfoil					27,406	
Tobacco	5,550					
Toilet articles and perfumery	1,014,612		374,229			
Upholstery goods and wall paper	764,797					
Whalebone and hornstrips for corsets	476,444					
Willows, wood, woodware, empty barrels	15,541				4,584	107
Wines	58,924	1,613,306		355	35,955	
Wool and woolen waste	2,484					
Woolen cloth	191,931					
Zinc	17,912					
Total in United States gold coin	35,841,767	5,243,200	426,025	985,500	2,476,560	742,520
Total for the preceding year	43,298,284	6,605,055		1,103,706	2,560,487	1,810,748
Increase			426,025			
Decrease	7,456,517	1,361,855		118,206	83,927	1,068,228

* Formerly a consular agency under Nice.

UNITED STATES CONSULATE GENERAL,
Paris, France.

UNITED STATES—continued.

consular districts of France to the United States, etc.—Continued.

Lyons.	Marseilles.	Nantes.	Nice.	Rheims.	† Roubaix.	Rouen.	St. Étienne.	Total for the year.
----------	----------	----------	----------	----------	----------	----------	----------	325,973
10,966	114,973	147,152	784	----------	----------	----------	7,326	1,139,453
423	----------	432,992	----------	----------	----------	----------	----------	886,998
----------	251,258	1,606	----------	----------	----------	----------	----------	1,553,179
946	65,283	----------	----------	8,967	16,626	33,369	----------	218,936
----------	2,833	----------	----------	----------	----------	----------	----------	2,833
823	96,807	40,986	----------	1,039	5,187	----------	----------	343,264
----------	----------	----------	----------	----------	14,435	----------	----------	450,731
1,413,955	----------	----------	----------	5,837	----------	10,504	----------	1,433,871
13,793	----------	----------	----------	----------	----------	----------	----------	13,793
7,395,940	----------	----------	----------	----------	----------	----------	1,769,712	9,915,972
169,706	482,783	2,106	11,443	5,140	----------	----------	28,030	2,643,812
----------	49,918	----------	----------	----------	----------	----------	----------	49,918
----------	----------	----------	----------	----------	94,632	21,502	----------	116,134
274	40,047	----------	----------	635	3,095	----------	----------	207,795
----------	----------	----------	----------	905	----------	----------	----------	17,712
----------	177,862	----------	508	----------	63,583	----------	6,445	350,323
----------	----------	----------	----------	826	----------	----------	----------	28,232
----------	----------	----------	----------	----------	----------	----------	----------	5,550
----------	224,159	----------	235,754	----------	----------	----------	----------	1,848,754
----------	----------	----------	89	168	177,518	7,349	580	950,501
----------	----------	----------	----------	3,371	278	----------	----------	480,093
309	61,768	----------	----------	78,292	11,810	840	----------	173,251
142,796	23,046	1,767	----------	5,602,584	571	----------	----------	7,479,304
----------	728,628	----------	----------	----------	87,878	52,489	----------	871,479
----------	----------	----------	----------	----------	17,751	10,405	----------	220,087
----------	----------	----------	----------	----------	----------	----------	----------	17,912
10,188,900	3,414,675	681,206	285,407	7,517,737	1,485,926	2,389,436	3,979,663	75,658,522
10,213,783	2,893,110	417,366	365,988	5,795,118	----------	4,943,207	3,913,307	83,920,153
----------	521,565	263,846	----------	1,722,619	1,485,926	----------	66,356	----------
24,883	----------	----------	80,581	----------	----------	2,553,771	----------	8,261,631

† Formerly a consular agency under Rouen.

ADAM E. KING,
Consul General.

BIRMINGHAM-AMERICAN TRADE.

REPORT BY CONSUL JARRETT.

The total value of declared exports to the United States from the Birmingham consular district for the year ending September 30, 1891, was $4,162,370.12, against $4,158,756.78 for the year ending September 30, 1890, an increase of $3,613.34.

Remarkable changes have taken place in the nature of merchandise exported, some of which are directly attributable to the new tariff law. The chief of these are buttons and guns. The total value of buttons exported for the year 1890 was $191,959.26, while the total for 1891 had fallen off to $11,172.08. The total value of shells (out of which buttons are manufactured) for 1890 was $11,272.35, and for the year 1891 it rose to $53,362.65, thus showing conclusively that the manufacture of buttons for export to the United States has been completely stopped here and transferred to the United States.

The total value of guns exported to the United States in 1890 was $348,839.19, but for 1891 the value had dropped to $212,424.64, a decrease of 40 per cent. But the most remarkable change is in bicycles and bicycle materials, the total value of which for the year ending September 30, 1890, was $324,961.07, and for the year 1891 it was nearly double, viz., $621,644.99. Under the heading "Steel and iron," there is also a marked increase, from $274,645.73 in 1890, to $351,743.77 in 1891. I have carefully gone over the invoices indicating steel and iron, and I find that for the year 1891 the total of weldless steel tubes amounts to $280,379. As these are chiefly used in the manufacture of bicycles, this item is important, for it indicates a larger home production of bicycles than in previous years. Evidently there is a growing demand for bicycles in the United States, and so large is it that I am impressed it should be brought to the attention of our home manufactures. I append herewith a brief statement showing imports and exports for Great Britain for the first nine months ending September 30, 1891.

JOHN JARRETT,
Consul.

UNITED STATES CONSULATE,
Birmingham, October 9, 1891.

[Inclosure in Consul Jarrett's report.]

BRITISH TRADE IN 1891.

The Board of Trade returns for the month of September and the past nine months were issued yesterday, and they again show a falling off both in the imports and exports. The declared value of the month's imports is £34,189,301, a decline of £1,362,387, or about 3 per cent. For the nine months' trading the value of the imports is given as £311,878,181, an increase as compared with the corresponding period of last year of £5,253,043, or 1.6 per cent. The increases (+) and decreases (—) in the value of our various imports for the month of September and the nine months are shown in the following table:

Imports.	September.	Nine months.
Animals (living)	−£323,545	−£1,547,563
Provisions (duty free)	+222,342	+4,997,776
Provisions (dutiable)	+397,043	+938,352
Tobacco (dutiable)	−73,150	−128,053
Metals	−83,988	−462,380
Chemicals, etc	−3,715	−528,199
Oils	−105,080	+186,768
Materials for textile manufactures	−703,347	+2,369,529
Materials for other industries	−647,035	−1,294,935
Manufactured articles	+134,992	+587,552
Miscellaneous articles	−165,375	+93,872
Parcel post	−11,529	+40,322
Total	−1,362,387	+5,253,043

The corn imports show an increase of 124,493 cwt. in the past month's imports of flour, but a decrease in maize, wheat, and barley. There has been a very large falling off in the number of animals imported during the month, amounting to no less than 16,791 in oxen, and 8,288 in sheep and lambs. The imports of provisions show an increase, except with respect to bacon and hams, salt beef, butter, preserved meat, fresh mutton, and hops. We append the totals:

Imports of Food.	Month of September.		Nine months.	
	1890.	1891.	1890.	1891.
Corn:	*Cwt.*	*Cwt.*	*Cwt.*	*Cwt.*
Flour	1,284,805	1,409,298	11,945,575	12,183,322
Maize	3,779,833	1,636,960	37,400,577	21,920,629
Wheat	7,524,520	6,850,749	45,480,161	43,530,244
Barley	2,327,070	1,942,515	9,687,215	9,318,086
Animals:	*Number.*	*Number.*	*Number.*	*Number.*
Oxen	60,945	44,154	411,966	339,793
Cows	3,897	2,820	41,814	20,866
Calves	4,684	3,893	54,548	36,894
Sheep and lambs	64,599	56,311	221,911	218,281
Swine	161	67	3,910	327
Provisions:	*Cwt.*	*Cwt.*	*Cwt.*	*Cwt.*
Bacon	343,451	327,943	2,876,330	2,763,167
Hams	120,234	83,467	953,025	968,460
Beef, salt	27,300	19,124	195,014	172,954
Beef, fresh	147,594	167,264	1,365,992	1,387,373
Butter	178,870	171,803	1,546,750	1,609,372
Margarine	89,637	103,381	776,910	910,669
Coffee	32,788	48,933	763,720	612,546
Tea, pounds	22,495,729	27,078,758	143,961,105	160,707,281
Sugar, unrefined	732,907	1,003,702	10,874,871	12,000,148
Cheese	234,083	248,033	1,554,504	1,485,344
Meat, fresh or salt	4,054	4,626	69,830	81,475
Meat, preserved	91,930	71,945	521,113	559,722
Mutton, fresh	117,424	117,151	1,229,195	1,292,865
Hops	22,356	12,494	92,300	69,916
Potatoes	45,144	49,825	1,784,794	3,008,964

The total value of the exports for the month of September is given as £20,793,543, a decline of £1,971,134, or 4.5 per cent., as compared with September in last year. For the nine months' trading the value of the exports is £187,475,396, a decline of £9,984,191, or 4.5 per cent., as compared with the corresponding nine months of last year. The various items of increase and decrease are as under:

Exports.	September.	Nine months.
Animals (living)	—£18,510	—£130,779
Articles of food and drink	+51,893	—322,737
Raw materials	—39,838	+367,892
Yarns and textiles	—804,803	—4,825,245
Metals and their manufactures	—537,652	—3,296,430
Machinery, etc	—201,649	—292,521
Apparel, etc	—23,282	—85,306
Chemicals, etc	—48,722	—28,815
Other articles	—347,947	—1,432,103
Parcel post	—1,344	—61,853
Total	—1,971,134	—9,984,191

The iron exports given how a decline. The total quantity of iron and steel exported during the month was 283,806 tons, and the value thereof was £2,035,691, a decline of 39,514 tons in quantity and £402,640 in value as compared with September of last year. For the nine months the exports were 2,569,026 tons in quantity and £21,053,110 in value, a falling off of 402,640 tons and £2,929,074 as compared with the nine months of last year. In the past month's trading the decline in the value of the iron exports is: Pig-iron, nearly 20 per cent.; bar and angle, 10 per cent.; railroad 13.3 per cent.; cast and wrought, 10 per cent.; hoops and sheets, 15 per cent.; old iron, 26 per cent.; and tin plates, 28 per cent. Subjoined are the totals:

Iron.	Month of September.		Nine months.	
	1890.	1891.	1890.	1891.
Pig and puddled	£281,359	£225,303	£2,814,261	£1,614,565
Bar, angle, etc	133,261	119,707	1,163,555	1,107,465
Railroad	397,771	344,999	4,870,605	3,236,029
Wire	96,767	101,299	773,463	848,752
Telegraphic wire	98,104	78,662	931,992	1,326,636
Cast and wrought	462,227	415,137	4,544,665	3,662,306
Hoops, sheets, etc	319,949	270,538	2,768,070	2,658,564
Old iron	45,254	33,089	366,769	282,440
Steel (unwrought)	164,587	160,209	1,440,349	1,240,078
Tin plates	523,008	374,317	4,663,277	5,958,724
Tin (unwrought)	36,229	44,840	357,087	371,945

The exports of earthenware and porcelain for September show an advance over the corresponding month of last year of £13,721, or about 8½ per cent. For the nine months there is, however, a considerable falling off. Both flint glass and common bottles show a decrease for September, amounting in the former case to some 13 per cent., and in the latter to 21 per cent. In plate glass, on the other hand, there is an advance equal to about 54 per cent. The full figures are as follows:

Glass and earthenware.	Month of September.		Nine months.	
	1890.	1891.	1890.	1891.
Earthenware and porcelain	£158,951	£172,672	£1,536,188	£1,434,909
Flint glass	24,297	21,084	191,961	175,998
Common bottles	40,667	32,364	135,368	133,128
Plate glass (including looking-glasses)	11,522	17,535	151,163	155,173

The total exports of copper for September amounted to 96,926 cwt. as against 122,252 cwt. in the same month last year, a decrease of over 20 per cent. For the nine months the quantity was 972,533 cwt. as compared with 1,144,241 cwt. in the like period of 1890, a decline of 15 per cent. The declared value of the exports of last month was £283,611, a decrease of £105,556, or 27 per cent.; and for the nine months £2,871,211, a decline of £473,001, or 14 per cent. It was in unwrought copper that the great falling off took place in September, the quantity exported being only 46,251 cwt. as compared with 78,116 cwt. in September, 1890, a decrease of over 40 per cent. The very small demand from Holland and France chiefly accounted for the decline. In wrought copper, on the other hand, there was an advance in quantity equal to about 80 per cent., and in value to 69 per cent. Brass also showed an advance, but there was a considerable falling away in the exports of yellow metal. The totals are given below:

Copper and brass.	Month of September.		Nine months.	
	1890.	1891.	1890.	1891.
Unwrought copper	£244,852	£124,852	£1,878,578	£1,499,193
Wrought, etc	54,371	91,681	671,239	791,275
Brass	39,235	45,782	367,888	388,635
Mixed or yellow-metal sheathing	89,944	67,078	794,395	580,738

With only four exceptions, the exports of miscellaneous articles such as affect the trade of the Midlands show a decrease under every head for September, and compared with the corresponding month in 1890. These exceptions are alkali, in which the advance is equal to about 5 per cent.; small arms, 25 per cent.; plate and plated wares, 7 per cent.; and soap, 4 per cent. The chief decreases are in ammunition, 12½ per cent.; beer and ale, 19 per cent.; railway carriages, 57 per cent.; railway trucks, 18 per cent.; chemicals, 10½ per cent.; hardware and cutlery, 5 per cent.; and steam engines, 25 per cent. The totals are as under:

Miscellaneous articles.	Month of September.		Nine months.	
	1890.	1891.	1890.	1891.
Alkali	£210,253	£220,522	£1,500,351	£1,701,304
Arms (small)	18,070	22,272	199,947	189,370
Ammunition (not gunpowder)	114,916	100,389	989,089	820,829
Beer and ale	140,717	113,711	1,347,397	1,252,988
Boots and shoes	193,480	186,112	1,360,311	1,414,514
Carriages (railway passenger)	47,969	20,684	398,770	314,970
Carriages (railway truck)	254,262	107,841	1,845,757	1,124,690
Coals, etc	1,677,929	1,670,950	14,109,551	14,497,155
Cordage and twine	44,639	38,178	366,885	329,714
Carpets	115,307	98,744	887,040	862,121

Exports of Miscellaneous Articles—Continued.

Miscellaneous articles.	Month of September.		Nine months.	
	1890.	1891.	1890.	1891.
Chemicals	560,675	501,684	5,151,157	4,921,389
Hardware and cutlery	236,340	220,059	2,073,914	1,881,280
Plate and plated wares, etc	34,120	36,413	276,820	271,508
Machinery	1,050,094	947,640	8,808,907	8,940,447
Steam engines	399,466	300,271	3,345,035	3,010,974
Ribbons	1,234	788	13,445	7,119
Salt	57,249	49,747	519,254	462,097
Saddlery	55,465	50,843	477,716	418,199
Soap	44,968	46,842	404,934	424,793

The downward tendency which has been apparent in our shipping trade for several months past is evidently not exhausted yet, and it would be too soon to proclaim a turn of the tide. The third quarter of the current year unquestionably touches a lower level than either of its immediate predecessors, and if July was bad, and August worse, September cannot be said to be appreciably better. The percentage of decline in our exports, at all events, is not quite so great as in August, when it amounted to 9.4 per cent., but it is in some respects even more widely diffused. As in the case of August, however, the standard of comparison is an exceptionally high one, and though our September exports are nearly two millions, or say 8.6 per cent. lower than the corresponding month last year, they are more than a million in excess for those of September, 1890. Considering that several important South American markets which were open to us then are closed to us now, this cannot be considered a very bad record. On the import side of the account there is also a substantial decrease as compared with last year, amounting to £1,362,387, or say 3¾ per cent.; but neither in amount nor in character is this decline so serious as that of our exports. It is only in articles of food and drink and a few manufactures, chiefly in cottons and silks, that there is any increase on the import side. The decline is most apparent in raw materials for textile and other manufactures, principally cotton, caoutchouc, and wood. The decline in exports is most conspicuous in yarns and textile fabrics, principally worsted tissues and cotton piece goods, metals and and metal wares (chiefly iron and steel and copper), and among miscellaneous articles, railway carriages. The sole category which exhibits an increase is articles of food and drink, and especially beer and spirits; but there are, of course, many increases in particular branches, such as linen and woolen yarns, brass, plate and plated wares, apparel, alkali, candles, earthenware, oilcloth, painters' colors, paper, and soap. There is an increase of some £4,300, or 23 per cent., in small arms, but this improvement is more than counterbalanced by the heavy falling off in ammunition. The big drop in railway rolling stock, £173,706, or more than 50 per cent., is pretty evenly divided between trunks and carriages. Iron and steel show a decrease of about 12 per cent. in tonnage, and £402,640, or 16 per cent., in value. The decline is spread over every category but that of wire, and is especially conspicuous in tin plates and hoops, sheets, and plates. The falling off in both cases is very largely referable to the United States. Australia is taking more iron, and Canadian requirements in the same line are increasing; but, with the exception of Brazil, the South American States are still very poor customers for this product. The decline of £16,281, or nearly 7 per cent., in our hardware exports is also mainly referable to the United States. With Australia, North America, Brazil, and even Belgium, our trade in hardware and cutlery is improving. The increase in our brass exports exceeds 15 per cent., and though our shipments of unwrought copper

and yellow metal show a heavy decline, there is an increase of some 68 per cent. in our exports of the wrought or manufactured metal. Machinery and millwork collectively show a big decline of £201,649, or over 13 per cent., which is about equally divided between the two descriptions, and is mainly referable to the diminished requirements of Russia, the principal South American States, South Africa, and Spain. With Australia, India, the United States, France, Sweden, and Norway, we are doing an increased trade in machinery. The improvement in earthenware, which is very acceptable after the experience of the past few months, appears to be due mainly to the United States, so that in this case, at all events, the McKinley tariff has failed in its intended effect. On the whole it will be evident that the returns are not so unsatisfactory as they may seem to be on the surface. They contain many elements of consolation and compensation, together with not a few indications that better results may be looked for in the early future.

HUDDERSFIELD-AMERICAN TRADE.

REPORT OF COMMERCIAL AGENT SMYTH.

General trade.—The total exports for the year ending September 30, 1891, amounted in gross value to $3,046,718, and for the previous year to $4,185,699.67. The difference in the two years represents a decrease of $1,138,980.82, or nearly 27 per cent.

A comparison by quarters will serve to show pretty clearly how the trade of this district has been affected by various influences during the past two years. For the quarter ending December 31, 1889, the exports amounted to $848,949.86, while those for December 31, 1890, foot up $676,826.62, a decrease of 20 per cent.

The exports for the quarter ending March 31, 1890, were $850,628.91, while those for the corresponding period this year were $840,567.29, a decrease of a trifle over $10,000.

The June quarter last year makes the largest showing in the history of this office—a result entirely due to the impending operation of the tariff bill. The total is $1,434,089.67. Compared with the return for the corresponding quarter this year, when the amount was $721,108.57, we find a decrease of $712,918.10, or a fraction less than 50 per cent.

For similar reasons the September quarter of last year figures as the next largest in the returns of this office. The tariff act had not yet gone into operation, and there was only a slight abatement in the rush of exports—the value of which was $1,052,031.23. For the corresponding quarter this year the returns show a gross value of $808,216.37, a decrease of $243,814.86, or 20 per cent.

Wool.—A closer examination of the returns for these years discloses some interesting facts concerning the principal items of export. For example, the export of wool from Huddersfield made no showing

on the returns prior to 1890. In the first quarter of that year it appears at $10,123.90, and has steadily increased ever since. The total for the four quarters of the year ending September 30, 1890, was $84,555.59, while that for the year just closed is $152,007.54—an increase of nearly 45 per cent. In one of my reports, submitted to the Department at the beginning of the year, I discussed some peculiar features of this question and pointed out the somewhat anomalous position of the American wool buyer in Huddersfield. In addition to that I attributed the increase to the quickened energies of the textile industries in the United States under a new fiscal policy and to a fresh demand from this source. It is evident that this demand for fine colonial wool is the visible sign of a determination on the part of American manufacturers to supply the home markets with a superior class of goods, the design and finish of which shall rival the best products from abroad. The depression in all the textile trades, not only in England but on the continent, is already disturbing the wool market in London. The demand from continental manufacturers has fallen off considerably, and the result is a dull market and poor prices. It may be regarded a favorable coincidence that this should happen at a time when American manufacturers are beginning to make heavy purchases for their own mills. The prospect for them is encouraging, inasmuch as it means greater scope and much lower prices.

Cotton thread.—I am at a loss to understand how it is that a cotton thread mill here in Huddersfield could find a market in the United States last year for $80,000 worth of its product. It certainly cannot be argued that the sewing cotton manufactured here is a whit superior to the American article. This mill has more than doubled its exports to the United States during the last two years, and is still steadily increasing them. The labor troubles which forced a suspension of operations at one of the large American mills last year were gladly welcomed by the concern here, as the result meant an increased demand from this side. As I stated in one of my previous reports, this concern—the Coates mill at Paisley—and the leading mill in the United States are in perfect accord on questions of mutual interests and trade, and are prepared to help each other out when the occasion demands it. This is an important consideration to the cotton thread people in the United States, and they might make a note of it.

Card clothing.—The card clothing trade, which occupies a close relationship with our own manufacturing interests, has increased steadily since the first quarter of the year ending September 30, 1890. Then it made a showing of a fraction less than $10,000. Compared with the corresponding quarter for this year, when the amount is $20,523.11, there is a remarkable increase of nearly 86 per cent. The

returns for the year 1890, compared with the total on the export sheet for 1891, show an increase of $26,361.95, about 50 per cent.

Chemicals.—What is said of card clothing may also be said of the chemicals exported from here to the United States. They are mainly dyes, sold for consumption in the preparation of American textile materials. The increased demand plainly points to renewed activity in that trade. The present returns, compared with those of last year, show an increase of 50 per cent.

Worsteds and woolens.—The manufacture of fine worsteds is the chief industry of this district, or at least the great industry which has won for Huddersfield a proud name among the textile manufacturers of England. The export of this product to the United States exceeds that of any other many times over. The high class of woolens exported from here to the United States in contradistinction to what is called "Mungo" or "Shoddy," bring them within the worsted category, so that the two may be considered as one product. In 1890 the total exports of woolens and worsteds from this district exceeded $3,000,000, or about 75 per cent. of the whole. Last year the aggregate fell away from these figures $756,199.57, about 25 per cent., while it still represents 75 per cent. of the total exports—precisely what it did the previous year. These figures, however, do not fully represent Huddersfield trade in these articles with the States, as some of the largest importers have their warehouses in London, where they are sent from here, and subsequently shipped to their destination in New York.

Plush.—The plush trade has not yet recovered from the blow administered by the tariff bill. The returns for the present year place the gross value at $49,127.94, while those for the preceding year amounted to $487,488.06, a decrease of $438,360.12, or 90 per cent. That it has been a hard rap to the plush industry is fully shown by the figures, and universally admitted by the manufacturers themselves. The better class of manufacturers, however, hope to see a revival despite the stringent provisions of the bill. One of the best equipped plush mills in England is located in Huddersfield, owned and operated by the sons of the late Joseph Walker, under the firm name Joseph Walker & Sons. They had a very extensive American trade in seal plushes, and only last year invested heavily in machinery and general improvements in order to cope with the demand for the higher grades. Most, if not all, of the fine plushes sent from here now are manufactured by this firm.

I desire to express to these gentlemen my obligations for information respecting the plush trade, which I found impossible to obtain elsewhere, and for their uniform courtesy and candor when approached on the subject.

Statement showing the value of declared exports from the Consular District of Huddersfield to the United States during the four quarters of the year ended September 30, 1891.

Articles.	Quarter ending—				Totals.
	December 31, 1890.	March 31, 1891.	June 30, 1891.	September 30, 1891.	
Bricks	$10,638.94	$7,204.83	$7,636.87	$11,456.13	$36,936.77
Cards and card clothing	20,523.11	11,879.90	9,371.47	13,187.27	54,961.75
Calf hair, goat hair, etc	7,274.66	----------	2,327.44	1,687.58	11,289.68
Chemicals and dyes	36,577.46	32,546.90	25,825.28	25,478.15	120,427.79
Clock	----------	----------	----------	121.67	121.67
Cutlery	----------	----------	----------	35.77	35.77
Corduroys and fustians	2,071.17	1,874.06	2,361.54	2,771.27	9,078.04
Cottons	5,559.36	5,909.85	5,273.86	3,660.16	20,403.23
Cottons, sewing	18,548.26	16,306.21	17,647.99	26,473.28	78,975.74
Grease and oil	250.22	13,454.65	----------	29,657.84	43,362.71
Jute yarns	911.78	----------	----------	12,102.94	13,014.72
Leather	----------	----------	----------	286.96	286.96
Linens	2,238.07	2,239.60	865.81	826.49	6,169.97
Linens and cotton	3,213.65	1,490.54	1,806.09	5,338.29	11,848.57
Linens and silk	----------	132.70	----------	----------	132.70
Mohair	----------	----------	----------	101.72	101.72
Mohair and cotton	8,276.44	4,188.81	14,532.37	19,694.98	46,692.60
Mohair, silk, and cotton	96.75	----------	----------	65.03	161.78
Mohair, worsted, and cotton	----------	82.05	----------	150.78	232.83
Mohair, woolen, and cotton	----------	184.13	----------	----------	184.13
Machinery	710.63	606.31	1,850.25	386.52	3,553.71
Needles	----------	69.52	----------	----------	69.52
Rugs and shawls	469.97	3,088.98	3,691.23	2,952.97	10,203.15
Silk and silk yarn	222.16	10,032.57	13,802.79	7,280.35	31,337.87
Silk and cotton	12,904.36	3,562.47	21,687.74	10,973.37	49,127.94
Stationery	491.72	364.37	240.55	340.63	1,437.27
Stuffs	1,602.49	9,176.12	6,321.91	6,585.57	23,686.09
Wire	----------	----------	----------	901.08	901.08
Wool	7,280.13	81,764.84	29,079.86	33,882.71	152,007.54
Woolens	98,114.29	83,434.73	157,399.69	145,555.18	484,503.89
Woolens and cotton	1,776.75	1,609.22	5,646.02	1,710.23	10,742.22
Worsteds	428,616.87	543,603.96	388,407.23	434,209.23	1,794,837.29
Worsteds and silk	2,046.96	1,916.66	2,414.93	2,314.14	8,692.69
Worsteds and cotton	2,628.36	1,661.46	266.25	1,974.07	6,530.14
Worsteds, cotton, and silk	3,666.97	2,181.85	1,653.91	5,230.07	12,732.80
Worsteds and woolens	----------	----------	997.49	574.78	1,572.27
Wines and whisky	----------	----------	----------	249.16	249.16
Miscellaneous	115.09	----------	----------	----------	115.09
Total	676,826.62	840,567.29	721,108.57	808,216.37	3,046,718.85

WILLIAM P. SMYTH,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Huddersfield, October 5, 1891.

LEEDS-AMERICAN TRADE.

REPORT BY CONSUL WIGFALL.

The accompanying Form D, with detail of exports from this consular district for the four quarters of the year ending September 30, 1891, and figures for comparison with the year preceding, marks with distinctness the unfavorable turn in the trade of Great Britain, which, at this consulate, was first indicated in the unusual diminution of amount of declared exports for the quarter ending March 31, 1890.

The year 1890, in its general course, showed activity, alternating with dullness, in the bulk of the operations of British trade, whereof the exchanges with the markets of the United States form so important an element. These disturbances reached their climax in the financial crisis of October, 1890, at London, whose settlement served to avert the fierce disaster which would, beyond question, have made commercial wreck of the national industries had it been permitted to reach its natural culmination.

This wonderful spectacle of self-help in the world of high finance, whose mutual interests were so intimately involved, was perhaps unique. It doubtless served to avoid a crash which would have meant wide-spread ruin; but it did not and could not effect impossibilities, or rematerialize substantial values which had been dissipated into the unrealities of reckless investment.

The monetary disarrangement here referred to was by palliative, but at the same time heroic, treatment, prevented from accomplishing in its full violence its destructive results.

In so far the commercial communities of all countries must gratefully acknowledge the courage and wisdom which prompted and carried through the auxiliary movement that brought reinforcement in the moment of despair.

Regarded fairly, and considered in connection with the other divisions of material activity, upon which, indeed, the financial development is wholly based, we may perhaps justly interpret this outcome as an evidence of a less concentrated, but still considerable, disorder in the varied branches among and through which the energies of this kingdom are so widely and so efficiently distributed.

Five years of reviving industries, gathering strength quickly at and from the beginning of the advance, and pushing forward in their progress with accelerating vigor, appear to have been potential enough in productive capacity to have brought about within the limits of the period mentioned, that is to say, about the year 1890, a condition analogous to the one which, having started some years

previously, found its deepest fulfillment in the dark days of 1884–5. It is merely the old story of over-supply and under-demand. This seems inseparable from the healthy vigor of peoples whose material powers are in course of wholesome growth, and whose advances are too full of force to always be able to escape the rebound, severest where the impact has been most energetic and successful.

The trade of Leeds with the markets of the United States is a typical one, as it relates to the general trade of the kingdom in that direction, although the bulk of business done directly with the States by Leeds is comparatively unimportant. This latter fact is one arising from causes and by means for the elucidation of which the present is not the proper occasion. Suffice it to say that the varied employments, and the successful manner of working, and the considerable scale of industrial operations conducted within the limits and influence of the town of Leeds, are only manifested ostensibly as regards the United States markets by insignificant portions of the really important whole. Nevertheless, these portions, though in amount of money by no means occupying the first rank, are, as already intimated, useful for indications of the general tendency and set of British trade. In this connection it may be of interest to consider somewhat at length the details which make up the past year's dealings. The returns by Form D this year, and in the regard referred to, are, on their face, quite misleading, in consequence of the change in the Leeds consular district which took place in April, 1890, and which, by the erection of Huddersfield into an independent post, has rendered a comparison inaccurate, except upon taking this fact into consideration. The decreases exhibited on Form D, therefore, for the quarters ending December 31, 1890, and March 31, 1891, of 66½ and 65⅝ per cent., respectively, as compared with the corresponding quarters of the preceding year, are too large by the difference between the combined declarations of the whole district as it was and the Leeds invoices only, which are all that appear in the December and March returns for the current year. Taking, accordingly, the Leeds returns alone for both periods, it is found that the decreases for the four quarters were as follows:

Quarters.	1890–91.	1889–90.	Decrease.	Percentage.
December quarter	$505,359.89	$662,050.36	$156,690.47	23⅔
March quarter	458,607.72	485,120.00	26,512.28	5½
June quarter	471,715.91	645,562.19	173,846.28	26⅞
September quarter	360,502.63	651,921.16	291,418.53	44¾
Total for year	1,796,186.15	2,444,653.71	648,467.56	26½

Comparing the two years by the separate items gives the following result:

	1890-91.	1889-90.	Decrease 1890-91.	Increase 1890-91.
Chemicals, dyestuffs, etc	$54,785.80	$37,496.70		$17,289.10
Confectionery, etc	14,599.93	14,303.05		296.88
Earthenware, bricks, etc	99,593.97	115,334.01	$15,740.04	
Grease and oil		3,724.01	3,724.01	
*Hair, wool, etc	405,872.44	405,634.46		237.98
Leather, etc	71,132.14	15,618.37		55,513.77
Linens, etc	2,208.52	27,654.79	25,446.27	
Metals, machinery, etc	274,006.84	268,806.76		5,200.08
Orchids, plants, etc	1,101.92	3,085.97	1,984.05	
Paper hangings	191.44	2,572.01	2,380.57	
Skins, furs, etc	102,050.06	112,308.34	10,258.28	
Stationery	3,507.00	3,368.26		138.74
Sundries	1,049.13	2,571.80	1,522.67	
Waste spun silk yarn		4,102.22	4,102.22	
Woolens	132,804.71	399,536.86	266,732.15	
Woolens, worsteds, etc	263,534.77	494,894.92	231,360.15	
Worsteds	369,747.48	533,641.18	163,893.70	
Totals	1,796,186.15	2,444,653.71	727,144.11	78,676.55
Net decrease year ending September 30, 1891			648,467.56	

*This item includes mohair yarn, but not a very large amount.

From this statement it appears that out of the seventeen headings, six show an increase and eleven show a decrease. The only items of increase amounting to so much as a thousand dollars are: Chemicals, dyestuffs, etc., $17,289.10; leather, etc., $555,13.77; metals, machinery, etc., $5,200.08. These, with "confectionery, etc.," "hair, wool, etc.," and "stationery" (which, combined, amount to $673.60), make a total gross increase of $78,676.55.

Against this, however, is to be set items of decrease:

Earthenware, bricks, etc	$15,740.04
Grease and oil	3,724.01
Linens, etc	25,446.27
Orchids, plants, etc	1,984.05
Paper hangings	2,380.57
Skins, furs, etc	10,258.28
Sundries	1,522.67
Waste spun silk yarn	4,102.22
Woolens	266,722.15
Woolens, worsted, etc	231,360.15
Worsteds	163,893.70
Total gross decrease	727,144.11

Which comprises—

Textiles:		
Linens, etc	$25,446.27	
Waste spun silk yarn	4,102.22	
Woolens, worsted, etc	661,986.00	
		691,534.49
Earthenware, brick, etc		15,740.04
Skins, furs, etc		10,258.28
Other items		9,611.30
From gross decrease		727,144.11
Deduct gross increase		78,676.55
Showing net decrease, 1890–91, as above		648,467.56

It will be seen that the diminutions in "woolens," "woolens, worsteds, etc.," and "worsteds," combined, account for this net decrease, with $13,518.44 to spare. The increase in "chemicals, dyestuffs, etc.," is approximately counterbalanced by the decrease in "waste spun silk yarn," together with this margin, and the item, "leather, etc.," is about equivalent to the united decreases on "earthenware, bricks, etc.," "grease and oil," "linens, etc.," and "skins, furs, etc." The increase in "metals, machinery, etc.," combined with the increases in small items, as above, is a set-off to the decreases in the other minor items.

The comparison may also be tabulated thus:

Declared exports, Leeds Consular District, year ending September 30, 1891. Increases and decreases as compared with the preceding year.

Decreases.			Increases.		
Earthenware, bricks, etc	$15,740.04		Leather, etc	$55,513.77	
Grease and oil	3,724.01				
Linens, etc	25,446.27				
Skins, furs, etc	10,258.28				
		$55,168.60			
Orchids, plants, etc	1,984.05		Metals, machinery, etc	5,200.08	
Paperhangings	2,380.57		Confectionery, etc	$296.88	
Sundries	1,522.67		Hair, wool, etc	237.98	
		5,887.29	Stationery	138.74	
Waste spun silk yarn	4,102.22			673.60	
Woolens, Woolens, worsteds, etc, Worsteds	661,986.00		Chemicals, dyestuffs, etc	17,289.10	
					$78,676.55
		666,088.22	Net decrease		648,467.56
Total		727,144.11			727,144.11

Rank.	Year ending September 30.	Invoice value.
1	1889	$2,545,325.54
2	1890	2,444,653.71
3	1888	2,054,952.90
4	1887	1,930,259.80
5	1886	1,848,313.17
6	1891	1,796,186.15
7	1884	1,642,367.38
8	1882	1,589,128.82
9	1883	1,305,717.64
10	1885	1,297,645.10
11	1880	1,231,374.52
12	1881	1,112,299.32
13	1877	475,191.64
14	1879	470,575.52
15	1876	418,026.18
16	1878	365,869.80
Total for 16 years		22,527,887.19
Average per annum, 16 years		1,407,992.95
Average per annum (1881-1891), 11 years		1,890,747.64
Invoice value 1891, as above		1,796,186.15
Below average of 11 years (1881-1891)		94,561.49
Above average of 16 years (1876-1891)		388,193.20

The years ending September 30, in the series of 16 years from October 1, 1875, to September 30, 1891, rank as follows, reckoned by the amount of invoice value shown on the Invoice Digest Book for those years, respectively:

Of the series of 16 years shown in the table, invoice value in 1891 (year ending September 30) was larger than in any corresponding period of the first 10 years of the series (1876–1885); and value was smaller in 1891 than in any year of the last 5 years immediately preceding it.

Assigning its proper precedence as regards value declared, to each of the separate quarters of these years (1875–76 to 1890–91), the quarters ending December 31, March 31, June 30, and September 30, show relative and corresponding rank for the quarters, and for the years, as follows:

Rank for year ending Sept. 30.		Rank for quarter ending Dec. 31.	Rank for quarter ending March 31.	Rank for quarter ending June 30.	Rank for quarter ending Sept. 30.	Rank for year.	
						Summary of quarters.	Mean for year.
1889	1	1	1	2	2	6	1.50
1890	2	2	3	1	1	7	1.75
1888	3	3	2	5	6	16	4.00
1887	4	4	4	3	7	18	4.50
1886	5	6	5	6	3	20	5.00
1891	6	5	6	4	9	24	6.00
1884	7	8	7	7	4	26	6.50
1882	8	7	8	8	8	31	7.75
1883	9	13	10	9	5	37	9.25
1880	10	10	9	10	12	41	10.25
1885	11	9	12	11	10	42	10.50
1881	12	11	11	12	11	45	11.25
1879	13	14	14	14	13	55	13.75
1877	14	16	13	13	14	56	14.0
1876	15	12	15	16	16	59	14.75
1878	16	15	16	15	15	61	15.25

In this reckoning, as compared with the preceding one, it will be observed that the years 1885 and 1880 change places, as is also the case with 1877 and 1879. The year 1885, with a larger total than 1880, takes a lower rank by quarters in consequence of irregular distribution in the March and June quarters, which fell below the average of the year. It may be noted that this corresponds very closely with the turn of the tide in general, English trade, which was at its lowest ebb just at this period, the September quarter, 1885, having been the lowest September quarter since that of 1881, and also the lowest from 1885 till now.

The June quarter, 1885, shows lowest since June, 1881, and also lowest from 1885 till now.

The March quarter, 1885, shows lowest since March, 1879, and also lowest from 1885 till now.

The December quarter of the same invoice year (December, 1884) was undergone by the corresponding quarter of the invoice years 1883 (December, 1882) and 1881 (December, 1880), and previously, but it also has been the lowest from 1884 till now.

The largest quarters of the whole series were seven out of the eight, comprised in the two invoice years 1889 and 1890, the March quarter of 1890 being outranked by March, 1888—the December and March quarters of invoice year 1889, and the June and September quarters of invoice year 1890 showing the heaviest returns in the respective series.

Taking the several sets of quarters, they are found to stand, respectively, largest in their series midway, and smallest in the years ending September 30, as follows:

Quarters.	Largest.	Midway.	Smallest.
December quarters	1889	1884–1885	1877
March quarters	1889	1882–1880	1878
June quarters	1890	1882–1883	1876
September quarters	1890	1882–1891	1876

FORM D.

Statement showing the value of declared exports from the Consular District of Leeds to the United States during the four quarters of the year ending September 30, 1891.

	Quarters ending—				Total for the year.
	Dec. 31, 1890.	March 31, 1891.	June 30, 1891.	Sept. 30, 1891.	
Chemicals and dyestuffs	$11,022.66	$14,950.52	$16,786.26	$12,026.36	$54,785.80
Confectionery, etc	3,596.42	3,924.69	3,863.48	3,215.34	14,599.93
Earthenware and bricks	28,254.96	23,807.69	27,595.89	19,935.43	99,593.97
Hair, wool, etc	156,944.91	89,420.89	105,683.13	53,823.51	405,872.44
Leather, etc	17,311.26	10,253.31	24,843.91	18,723.66	71,132.14
Linen yarn, etc	510.66	669.75	441.29	586.82	2,208.52
Metals, machinery, etc	41,162.32	63,063.88	95,655.11	74,125.53	274,006.84
Orchids, plants, etc	691.61	159.44	250.87	----------	1,101.92
Paper hangings	----------	191.44	----------	----------	191.44
Skins and furs	22,504.68	33,516.27	29,785.42	16,843.69	102,050.06
Stationery	1,745.76	----------	531.42	1,229.82	3,507.00
Sundries	297.83	270.82	159.01	321.47	1,049.13
Woolens	37,451.12	36,105.68	32,268.46	26,979.45	132,804.71
Woolens, worsteds, etc	37,149.24	92,700.52	72,259.01	61,426.00	263,534.77
Worsteds	146,716.46	89,572.82	62,192.65	71,265.55	369,747.48
	505,359.89	458,607.72	471,715.91	360,502.63	1,796,186.15
Total in U. S. gold	505,359.89	458,607.72	471,715.91	360,502.63	1,796,186.15
Total for preceding year	1,511,000.22	1,335,748.92	645,562.19	651,921.16	4,144,232.49
Increase	----------	----------	----------	----------	----------
Decrease	1,005,640.33	877,141.20	173,846.28	291,418.53	2,348,046.34
Percentages:					
Decrease	66½	65⅝	26⅞	44¾	56⅝

December quarter, 1889, and March quarter, 1890, show returns from Huddersfield as well as Leeds.

June quarter, 1890, and September quarter, 1890, show returns from Leeds only.

December quarter, 1890; March quarter, 1891; June quarter, 1891; and September quarter, 1891, show returns from Leeds only.

F. H. WIGFALL,
Consul.

UNITED STATES CONSULATE,
Leeds, October 26, 1891.

CHEMICAL FERTILIZERS IN JAPAN.

REPORT BY CONSULAR GENERAL TILLOTSON, OF KANAGAWA.

I have the honor to submit the following in relation to the use of chemical fertilizers in Japan, in conformity with your instructions, No. 7, of July 13, 1891.

A report on the chemical fertilizers of Japan must of necessity be, to a certain degree, unsatisfactory because of the fact that their use at all is of very recent date.

Within the past few years experiments have been made in that direction, and the result has been such as to justify the conclusion that the demand for such fertilizers will increase from year to year and in time the demand will be very large, and, as the soil of the country is extremely deficient in phosphates and no mines of phosphatic rocks having been discovered in Japan, the people must necessarily look elsewhere for the supply of those useful articles for strengthening impoverished soil.

The principal difficulty in building up a trade in fertilizers here is the question of price. The profits of agriculture are so small that the farmers are unable to purchase anything, even for the enrichment of their land, unless it is a very cheap article, and hence, no doubt, in order to start the demand for phosphates, it will be necessary to put them on the market at a price which will only give the seller the very lowest margin possible.

The importation of phosphatic rock, so far, has not been encouraging, to say the least. Two cargoes of that article arrived here in 1887, in sailing vessels, from Charleston, and some of it still remains unsold, and a failure to find a market therefor is undoubtedly due to its being too expensive for the practical use of the farmer.

The duty is 5 per cent. *ad valorem* levied on the original cost.

The only phosphatic fertilizers used to any great extent up to the present date are bone-dust and ground bones of fish, birds, and animals containing from 20 to 23 per cent. of phosphoric acid and superphosphate of lime manufactured from ground bones.

There is only one manufactory of phosphatic fertilizers worthy of note in Japan, and that is The Artificial Fertilizer Company of Fukagawa, Tokio, which sold during the year 1890 50,000 kwamme, or 414,000 pounds of superphosphate, and it is expected the production and consumption this year will be double that amount; but there are many small manufactories scattered throughout the various provinces, the output of which cannot be accurately estimated.

The phosphatic rock used was imported from America, but the sulphur was obtained in Japan.

There were imported from Korea and other countries 4,729,657 pounds of bones during the year 1890, against 2,745,057 pounds in 1889, and 2,326,310 pounds in 1888.

It will be noticed from the above figures that the importation of fertilizing commodities is increasing every year.

In addition to those mentioned heretofore, small quantities of Thomas' phosphate and double phosphate have been imported from Germany, Yokohama being the port of entry, but very little can be said concerning them, however, as they are only now undergoing trial.

The proportionate equivalents of the three principal elements of fertilizers used in Japan are potash 1, phosphoric acid 2, nitrogen 5, the phosphoric acid, according to the nature of the fertilizer, varying in value of nitrogen from $\frac{2}{5}$ to $\frac{1}{3}$, as, for instance, the nitrogen contained in fish manure costs yen $1.\frac{82}{100}$ per kwamme (8.28 lbs.), and phosphoric acid 73 sen per kwamme, the silver yen being equal to about 76 cents United States gold, and containing 100 sen.

There does not seem to be any regular standard price for phosphatic fertilizers on account of the market for them being new and not well established, but the price in Tokio at the present time for superphosphate of lime is about yen 1.30 per ten kwammie (or 82.82 lbs.) the yen being worth, as before stated, about 76 cents in United States gold, and the article containing from 12 to 13 per cent. of phosphoric acid soluble in water.

The foregoing facts have been collected by me after giving the subject considerable attention, and contain all the reliable information that it seems possible to obtain concerning the question at the present time.

W. D. TILLOTSON,
Consul General.

UNITED STATES CONSULATE GENERAL,
Kanagawa, November 4, 1891.

SHEFFIELD-AMERICAN TRADE.

REPORT BY CONSUL FOLSOM.

The total declared exports from Sheffield to the United States during the year ended September 30, 1891, amount to the sum of $2,314,160.49, being a decrease of $1,050,254.65 from the trade of the twelve months immediately preceding. This great falling off in shipments, amounting to about 35 per cent., is accounted for chiefly in the lines of cutlery and unmanufactured steel, the former showing a decrease in value of $810,258.98, and the latter, $227,496.99.

This effect has been brought about by the new tariff, and the overstocks of goods held in the United States when the act went into effect. The value of steel exported during the quarter ended

September 30, 1891, is less than in any corresponding quarter since 1885, although the decrease is not serious as compared with the falling off in the cutlery trade.

The following are the totals for cutlery for the last five quarters: September, 1890, $364,844.74; December, 1890, $137,132.61; March, 1891, $111,806.60; June, 1891, $105,438.05; September, 1891, $142,904.61. There appears, therefore, to be an improvement in this line of goods, the lowest ebb having been reached in the last June quarter.

The general trade of Sheffield seems, however, to be prosperous, and manufacturers are exploring new markets to make up for their losses in the American trade. There has been no decrease in wages, and all factories and works seem to be fully employed, save, perhaps, two or three concerns whose most important trade was with the United States.

The following is a detailed statement of the exports from this district for the year ended September 30, 1891:

Articles.	Value in United States gold.	Articles.	Value in United States gold.
Animals for breeding	$4,516.12	Needles and pins (steel)	$711.99
Anvils	12,999.54	Optical goods	803.16
Bricks, silica fire.	1,372.66	Pearl slabs	26,478.82
Button stuffs	8,527.14	Pill boxes	1,326.77
Coal tar preparations	1,968.70	Platinum	1,513.29
Composition doctors	253.67	Printed matter	3,540.21
Copper plates	1,870.42	Raddle	2,127.64
Cotton union blinds	243.93	Salted skins	77,781.82
Cutlery	497,281.87	Scythestones	488.25
Dead oil in drums	2,643.40	Scythes, sickles, and grass hooks	6,113.63
Down quilts and pillows	1,824.25	Sheep dip	13,578.67
Edge, garden, and other tools	29,663.04	Steel wire, bars, etc	1,310,708.63
Electro-plated goods, etc	3,962.16	Steel boiler tubes and flues	20,591.91
Ferro chrome	904.66	Steel cylinders	2,513.06
Files	10,116.10	Steel forgings	6,966.92
Glue	62,290.59	Steel music wire	1,013.80
Graining combs (steel)	1,774.14	Steel railway buffers	2,319.50
Grindstones	1,441.91	Steel tyres	885.52
Hair and fiber	16,873.42	Steel wheels and axles	517.00
Horn pieces	18,203.03	Steel wire rope	3,690.83
Horn, manufactures of	12,389.40	Tungsten	778.00
Iron	3,393.39	Umbrella ribs (steel)	4,756.53
Linens	17,708.63	Veterinary instruments	173.78
Machinery	58,296.52	Wines and spirits	892.49
Magnets	1,881.59	Sundries	1,185.82
Measuring tapes, rules, and straight edges	49,907.01		
Millstones	395.16	Total	2,314,160.49

BENJAMIN FOLSOM,
Consul.

UNITED STATES CONSULATE,
Sheffield, October 16, 1891.

LIVERPOOL–AMERICAN TRADE.

Statement showing the declared value of exports from the Consular District of Liverpool to the United States during the four quarters of the year ended September 30, 1891.

Articles.	Quarters ending—				Total for the year ended September 30, 1891.	Total for the year ended September 30, 1890.
	December 31, 1890.	March 30, 1891.	June 30, 1891.	September 30, 1891.		
Bags and canvas	$20,047.11	$16,239.51	$6,248.59	$11,616.33	$54,151.54	(*)
Beer, ale, and stout	49,125 95	19,714.18	9,825.46	10,117.46	88,783.05	$111,197.85
Books and stationery	2,973.41	5,439.67	7,143.91	14,228.10	29,785.09	(*)
Cattle, horses, and other animals	16,116.63	20,419.67	76,277.52	278,597.39	391,411.21	631,399.60
Cement	92.46	691.04	8,117.32	66,184.40	75,085.22	(*)
Chemicals	2,124,338.01	2,182,589.06	1,915,675.95	2,098,487.84	8,321,090.86	7,109,110.47
Clay, china and other	9,518.36	5,060.26	6,895.84	7,752.33	29,226.79	(*)
Coal and coke	135,301.23	52,129.79	115,808.10	157,788.03	461,027.15	(*)
Cotton	202,346.48	177,605.69	253,734.96	159,571.59	793,658.72	1,044,927.07
Cotton ties						437,079.06
Dyes and dyeing stuffs	6,934.75	282.26		7,319.23	14,536.24	(*)
Dye and other woods	24,947.62	20,244.65	20,551.23	23,417.60	89,161.10	(*)
Earthenware and glass	*102,715.70	162,511.79	80,774.17	109,004.13	455,005.79	(*)
Felt	6,233.97	8,190.31	2,112.07	5,477.02	22,013.37	334,571.81
Fish and herrings	300,086.45	25,270.87	2,238.59	7,869.13	335,465.04	920,693.08
Fruits and vegetables	187,440.01	171,455.55	80,759.57	89,426.81	529,081.94	(*)
Fruits, preserved	18,180.68	603.44		4,516.11	23,300.23	(*)
Furniture	4,287.37	3,703.41	2,477.04	14,015.53	24,483.35	135,274.17
Grease and oils	94,428.11	74,495.50	18,818.76	39,287.38	227,029.75	(*)
Gypsum	8,195.18	6,087.98	4,209.52	4,647.51	23,140.19	(*)
Hardware	15,246.08	9,674.60	31,841.51	19,757.99	76,520.18	1,316,850.62
Hemp and flax	234,243.10	230,793.51	244,381.03	214,894.90	924,312.54	1,238,633.60
Hides, skins, and leather	410,122.62	313,693.68	319,451.66	359,527.28	1,402,795.24	(*)
Iron	29,553.49	12,117.42	2,837.17	96,239.90	140,747.98	†2,262,537.95

* In the returns for the year 1890 the total value of this class of goods was included in the total amount of miscellaneous goods.

† Including pig iron.

Statement showing the declared value of exports from the Consular District of Liverpool to the United States, etc.—Continued.

Articles.	Quarters ending—				Total for the year ended September 30, 1891.	Total for the year ended September 30, 1890.
	December 31, 1890.	March 30, 1891.	June 30, 1891.	September 30, 1891.		
Iron, pig iron, and manufactures of	$340,156.55	$327,376.97	$291,513.08	$180,240.55	$1,139,287.15	(*)
Lead	12,263.52		253.06	3,800.74	16,317.32	(*)
Lime and lemon juice	175.19	705.64	15,042.36	1,484.28	17,407.47	(*)
Machinery	6,720.62		5,372.62	21,758.12	33,851.36	(*)
Manures	6,705.58	18,715.91			25,421.49	(*)
Metals, not elsewhere specified	20,151.56	35,885.17	30,026.31	8,107.58	94,170.62	(*)
Mill and other stones	2,287.25	2,272.65	3,143.76	2,676.57	10,380.23	(*)
Minerals, not elsewhere specified	1,956.31			3,265.42	5,221.73	(*)
Oilcloth	15,119.51	20,069.29	33,374.47	31,092.07	99,655.34	(*)
Paints, varnish, and colors	14,161.40	9,246.34	6,399.44	7,007.76	36,814.94	(*)
Paper making materials	95,386.50	104,589.96	90,828.36	59,955.28	350,760.10	$497,813.68
Paper, wall	3,615.79	287.12	214.13	233.59	4,350.63	(*)
Patent composition	4,730.23	1,450.22	5,489.42	2,705.77	14,375.64	(*)
Pitch and tar	3,323.80	6,574.63	7,572.27		17,470.70	(*)
Plants	72.99		1,695.15	467.18	2,175.32	(*)
Provisions	5,455.32	266.75			5,722.07	(*)
Rice and rice flour	59,871.24	51,525.90	127,400.11	49,828.09	288,625.34	221,281.61
Ropes, old, and oakum	29,412.86	13,932.79	1,790.88	26,731.68	71,868.21	(*)
Rubber	195,506.11	954,455.25	478,557.28	724,831.10	2,353,349.74	2,422,856.95
Saddlery and harness	3,367.60	2,063.39	3,226.49	2,481.92	11,139.40	(*)
Salt	134,926,81	146,329.48	132,417.47	182,065.49	595,739.25	721,808.30
Sausage casings	554.78	4,097.59	267.66		4,920.03	(*)
Seeds	3,153.48	3,153.48	21,252.01	9,071.15	36,630.12	(*)
Sheetings, yellow metal	4,730.23			4,890.83	9,621.06	(*)
Silk and plushes	437.98	452.58		1,640.01	2,530.57	(*)
Slates, bricks, and tiles	11,192.14	10,214.81	11,942.38	7,689.07	41,038.40	(*)
Spices	1,479.41	9,245.79	8,803.50	10,716.03	30,244.73	(*)
Steel and manufactures of	121,918.91			40,343.26	162,262.17	766,736.82

Sugar	16,151.46		139,527.43	48,007.96	203,686.85	(*)
Taggers	75,736.88	14,828.23	3,640.14	34,707.88	128,913.13	(*)
Tea and coffee	3,924.11	7,333.80	13,491.14	11,446.01	36,195.06	(*)
Tin, tin plates, and terne plates	3,835,881.86	5,204,020.46	6,836,430.01	932,440.87	16,808,773.20	12,447,684.52
Tobacco	6,988.18	2,389.45			9,377.63	(*)
Wax	2,949.09	3,163.22	4,151.13	1,090.09	11,353.53	(*)
Wines and spirits	2,228.84	2,773.91	1,961.20	1,644.87	8,608.82	(*)
Wool, hair, and nails	513,584.96	434,714.07	294,676.31	257,447.59	1,500,422.93	3,942,623.18
Woolen, worsted, and cotton manufactures	4,209.52	6,190.31	8,871.63	4,107.32	23,378.78	(*)
All other goods	16,637.77	21,826.09	17,314.51	17,067.19	75,780.15	2,465,673.65
Total for the year ending September 30, 1891	9,580,331.08	10,939,418.15	11,808,313.22	6,491,591.33	38,819,653.78	
Total for the year ending September 30, 1890	11,043,167.50	7,264,810.97	9,365,633.76	11,355,142.46	39,028,754.69	39,028,754.69
Increase		3,674,607.13	2,442,679.40			
Decrease	1,462,836.42			4,863,551.13	209,100.91	

* In the returns for the year 1890 the total value of this class of goods was included in the total amount of miscellaneous goods.

THOMAS H. SHERMAN,
Consul.

THE MILK SUPPLY OF COPENHAGEN.

REPORT BY CONSUL RYDER.

I have the honor to transmit herewith a copy of a pamphlet relating to the milk supply of Copenhagen. In no other country in the world has the question of pure and wholesome milk been presented with as much zeal as in Denmark, and the results, to both farmers and people alike, have more than justified all the labors of the scientists and the agriculturists.

It is to be hoped that the authorities in our towns and cities will profit by the experience and results described in this little pamphlet.

HENRY B. RYDER,
Consul.

UNITED STATES CONSULATE,
Copenhagen, October 27, 1891.

(Inclosure in Consul Ryder's Report.)

MILK SUPPLY IN COPENHAGEN.

INTRODUCTORY REMARKS.

Milk is described as *the most wholesome and nutritious food that we possess*, and even as a *representative* and *ideal* one—excellent not only for children (furnishing as it does every element necessary to the growth of the body), but most valuable also for persons of every age. Milk, however, may easily be adulterated, and unquestionably it very often is. Its taste may be impaired or destroyed by allowing it to remain for even a quarter of an hour in a cow-house tainted with impure odors, and feeding the cows with unsuitable food may effectually spoil it, so that, as Professor Brown has said, "*It may prove to be either a food or a poison.*" We hear of the milk of cows suffering with tuberculosis having been given to swine, and of the whole herd becoming diseased and having to be killed in consequence. The milk of cows so affected may also transmit diseases to ourselves, and M. Galvatier has shown that even the products—such as curds, cheese, etc., obtained from such milk—are highly dangerous to man and beast.

Quoting *The Dairy* for August 15, 1889, we see that the following are the conclusions to be arrived at from M. Galvatier's experiments:

"The milk of phthisical cows should be suspected not only when used raw for human consumption and for feeding animals, but also when it is employed in the fabrication of the usual dairy products. The germs are preserved in the milk when the rennet is added, in the cheese and in the curds, and may render these products quite as dangerous as the raw milk from which they are manufactured. A man could, in truth, inoculate himself with the germs of phthisis by consuming the milk of a phthisical cow, or the clotted milk; the cheese, fresh, dried, or salted; or even the curds prepared from the milk of cows suffering with tuberculosis.

"Poultry or swine which are nourished on the curds produced in the manufacture of cheese may infect themselves when there is a diseased animal in the dairy, and it is not irrational to attribute to this cause a certain number of cases of tuberculosis in poultry and swine.

"Consequently we should use extreme care not only to prevent the consumption of raw milk obtained from cows affected with, or suspected to be affected with tuberculosis, but also not to employ products obtained from such milk."

To return to our subject—milk in general. How can we avoid the dangers and secure the advantages of using such a food? The answer is: By doing in our large towns what Mr. G. Busck has long since done in Copenhagen—*securing a properly controlled system of milk supply.*

SHORT SKETCH OF THE UNDERTAKING.

The Copenhagen Milk Supply Company owes its origin to what may be termed an accident. About twelve years ago Mr. G. Busck, of Copenhagen, founder of the Scandinavian Preserved Butter Company, hearing that one of his work people was much distressed because he could not procure in town what he had been accustomed to get in the country—namely, good wholesome milk for his children—that, in fact, the said workman had been refused milk at a distillery where cows were kept on the ground that "he didn't buy spirits there," Mr. Busck thought such a state of things ought not to be, and set about trying to remedy it at once. He saw that in Copenhagen then (as in so many other places now) one had to be satisfied with milk for which one had not the slightest guarantee that it was not adulterated, or the produce of cows unhealthy or badly fed, and that, as in the case above mentioned, there was sometimes considerable difficulty in obtaining it at all. Knowing it to be a most valuable food for the community at large, and an indispensable one for children, he speedily discovered that, viewed either from a philanthropic or a commercial point of view, it was well worth while endeavoring to supply the town with it. Much might be written about the difficulties which he had to encounter in the working out of his idea, but it is beyond our purpose to do so here.

Suffice it to say, that in Denmark, as in Great Britain, there are plenty of people who consider the grandfather's way of doing things quite good enough for his descendants; great prejudices had to be overcome, and the day of small dividends manfully faced; but Mr. Busck, being an indefatigable worker, and having full faith in the goodness of the cause, showed himself equal to every emergency.

He soon enlisted the sympathy of one of the highest medical authorities in Denmark, the late Professor Panum (who, it may be recollected, presided at the great Medical Congress held at Copenhagen in 1884); Herr Bille, some time ago Danish Minister at Washington; Dr. Borch, writer of the well known article, and afterward Dr. Engelsted, and Mr. H. B. Halkier, solicitor (now one of the directors).

Three of these gentlemen agreed to form an independent committee, working without remuneration, and with no monetary interest in the concern. A company with a capital of about £600 was formed, and they began business on a very small scale, in a place opposite the Copenhagen Industrial Exhibition. Shortly after they moved into the Industrial buildings themselves; and finally they went to their present headquarters at Frederiksberg, on the outskirts of the city. Here premises which cost £7,000 were erected; and these, last year, were greatly enlarged at a further outlay of £2,000.

DR. BORCH'S ARTICLE.

The following extracts (with additions which bring down the statistics to the present time) are taken from our translation of what Dr. Borch wrote about the company in 1887:

In my article published in the *Medical Weekly Review* for March, 1878, on the projected Copenhagen Milk Supply Company, I endeavored to place before the readers of that journal the programme of the company and the object which it had in view. This company, which commenced working in the month of April, 1878, has now existed for

ten years, and I think my readers will follow with interest the success which has attended it, and an account of the means by which this success has been attained. The object it set before it was to supply pure and unadulterated milk to the inhabitants of the city of Copenhagen, and especially to the infant population.

It will, perhaps, be remembered that, on the establishment of the company, it was resolved that the undertaking was not to be of a purely mercantile character.

It was therefore decided that any profits exceeding the 5 per cent. payable to the shareholders should go toward reducing the price of milk and improving the business generally. It was also agreed that the members of the committee of control should have no monetary interest in the concern.

The nature of the prospectus and the promises contained therein appealed to the public, and soon secured its confidence and support, which was fully justified by the efficient manner in which the committee of control carried on the daily analysis of the milk.

These analyses were made in the laboratory of the University, where they are still carried on, according to the method prescribed by the late Professor Panum. On the death of Professor Panum, Dr. Engelsted was appointed his successor in the committee.

Here Dr. Borch mentions the amount of work involved in making the analyses, which is now much greater, and recently in one month, that of October, 1889, necessitated the examination of milk and cream from fifty farms with a stock of 4,300 cows.

This entailed analyses of the weight and density of sweet milk, analyses of the density of skim milk, and analyses of the density of two qualities of cream—2,088 analyses in all.

Every evening samples are taken of the milk and cream sent in by each farmer who has contracted for the supply, and these samples are examined next morning in the company's own dairy, which is situated close to the railway station of Frederiksberg (a suburb of Copenhagen).

By these means, should any fault be found with the milk, it may at once be rejected. Then, again, before the milk is sent out for delivery in the morning, an average sample is taken of each quality of milk and cream, and these are sent to the University to Professor Bohr, lecturer on chemistry, who publishes monthly the results of his daily analysis, giving the highest, lowest, and average figures.

When taking the samples of milk on its arrival from the country, its temperature is also noted. The contractors are bound by the rules of the company to cool the milk, immediately after milking, to 4° Reaumur,* so that even in the hottest season it can be transported to the city without its temperature rising more than a few degrees.

If, however, on its arrival it is found that its temperature has risen above 8° Reaumur,† the milk is rejected by the company, and disposed of at the expense of the contractor.

One of the most important and at the same time most difficult tasks is to secure wholesome milk, for the above-mentioned analysis can only guarantee the chemical properties of the milk, but not its physical qualities, which, considered from a hygienic point of view, are of the greatest importance.

In order, however, to ensure the greatest security possible in this respect, the following measures have been adopted.

The only milk accepted is that which is supplied from farms which have a really superior and healthy stock of cattle; and, besides this, the company demand from farmers and managers a moral guarantee that its rules respecting the feeding and treatment of the cows shall be strictly attended to.

The price paid for the milk is the very highest obtainable, higher than the parties contracting can get for it anywhere else; thus the contractor would suffer a pecuniary loss were his contract to be cancelled, and he has the highest inducement to comply with the regulations of the company.

* 4° Reaumur about 40° Fahrenheit. † 50° Fahrenheit.

Here Dr. Borch mentions that *the cows supplying children's milk* are examined by a competent staff of veterinary surgeons once a fortnight; now *all the cows* are so examined. He then continues:

The veterinary surgeon must fill up a form, in which he gives a report on the condition of the fodder and on the state of cleanliness in which both cows and cow houses are kept.

Any cases of lung complaints, or of other diseases, real or suspected, he must report, specifying more particularly which of the animals supply milk for general, and which for special uses. He is also obliged to state how much milk is yielded by the cows which are ill and separated from the others, and the use made of it.

As a further precaution, an inspector is regularly sent out to examine the management of the dairy farms. He must fill up a form, reporting on the condition of the cows and the quality of the fodder; he must also see that the rules laid down by the company are observed with regard to feeding the animals; also that cleanliness is exercised while milking.

He must examine the cooling apparatus; report if it is in order; if there is a sufficient stock of ice; and how it is stored. Besides all this, an experienced dairymaid is sent out to superintend the milking of the cows. Her attention is specially directed toward securing cleanliness during the milking; also to the cooling of the new milk. In order to keep the milk as cool as possible after its arrival at the company's dairy, the milk cans are placed in large tanks filled with ice; but before this is done the milk undergoes a thorough process of purification.

The filtration is carried out in the following manner:

Here Dr. Borch describes the process of filtering with sponges, which is now no longer employed. For a description of the present system, see notes on Dr. Woodhead's article, p. 23.

At first only the milk intended for children was subject to the system of filtration, but since it has been proved to be so advantageous, all the milk and cream sold by the company are now filtered. While the milk is in the dairy, every care is taken to preserve its purity.

Through the partition wall dividing the filtering apartment the milk is conveyed by means of pipes into another hall, where it is bottled, the workmen employed in the process of bottling being supplied with clean white blouses, caps, and aprons.

We thus see that the company not only takes the greatest possible pains to procure good and wholesome milk from the country, but also uses every means in its power, and spares no expense, to keep it good in all its stages on its long way from producer to consumer.

Nor do these efforts to attain the object in view end here.

Experience, both at home and abroad, has taught us that milk has proved a dangerous and ready medium in conveying infectious diseases, especially diphtheria and typhoid fever, and considering the great number of farms from which the milk comes, and the consequently increased number of possible sources of infection, the following precautions are taken to avert danger.

Every contractor is pledged to report immediately on any case of infectious disease appearing either upon his farm or among his work people. His attention is especially directed to the women who milk, no one in whose home an infectious disease has broken out being allowed to assist in dairy work.

To ensure the contractor against loss in cases of this kind, the company is bound to purchase the suspected milk at the usual price, but only if intimation as regards the outbreak of the disease has been made at once.

This milk is not resold, nor does it ever come into contact with the milk which the company supplies to its customers.

The same strict supervision is exercised over the work people connected with the company's own dairy and establishment at Frederiksberg. Dr. Schou and Dr. Bilsted, who are engaged by the company to watch over the health of its employés, are authorized to suspend from work any person in whose family an infectious disease has appeared. These people, though suspended from their work, are paid their full wages, and have thus no temptation to conceal any case of illness from the doctor.

While we are writing, three persons, acting under the doctor's orders, are in this way absent from their work. To show the care that is taken to prevent the spread of infection, it may be mentioned that last summer, when a case of typhoid fever broke out in the family of one of the functionaries living on the company's premises, to avoid the possibilities of any germs of infection mixing with the milk in any way, a two-story cottage was hired, to one story of which the infected family was at once removed, while the other story was kept in readiness to receive any fresh case which might appear. Fortunately, however, it was not required.

A specialty of the Copenhagen Milk Supply Company is the milk for children; its value is generally admitted by the inhabitants of the city, as shown by its still increasing sale. Last year (1889) it went up to 162,000 gallons. Special attention is paid to the winter fodder of cows yielding this supply. In summer all the cows are fed alike; their fodder must consist of grass and clover only; other kinds of food, such as vetches, are not allowed, nor on any account are cows to be kept in the house during summer. As soon as a contractor, from want of pasture, is obliged to feed his stock in-doors, his contract with the company is cancelled until he can again put his cows on grass. During the winter the cows producing the children's milk must be fed only with hay, straw, oats, barley, wheaten bran, and a small quantity of carrots. It has therefore been necessary to pay a higher price to the contractors for this quality of milk, but this extra expenditure, together with the cost of the careful bottling, is not covered by the slightly increased price paid for it by the public. The profit made by the company on this milk is thus less than that made on the ordinary sweet milk. But, in the interest of the community, this important kind of milk is sold as cheap as possible. Abroad it costs even twice as much as it does here.

It stands to reason that such a system as the one described above should have arrived at its present stage of perfection only by degrees and through experience, and it is only fitting that we should here mention the name of the man who has the chief merit that the results are so admirable. It is to the great ability, indefatigable energy, and unflagging interest of Mr. G. Busck, that the Copenhagen milk supply has reached what may justly be termed its present ideal state.

But, notwithstanding the great importance of the enterprise, and the great support it has met with from the public, it has not as yet proved a great success from a commercial point of view, for it is only within the last year or two that a satisfactory dividend has been realized.

In 1879 the sale of 3,900,000 pounds* of milk and cream was effected, and in 1889 this quantity had increased to 13,800,000 pounds, but of this amount a considerable portion—in 1889 more than 1,200,000 pounds—was sold at a reduced rate, viz., 200,000 pounds delivered to infant schools and similar charitable institutions at a very low figure, besides what has been distributed gratis among the very poor.

In this paper I hope I have succeeded in showing to my readers that the company has fully carried out the programme published by it ten years ago, and at the same time I hope I have made plain that the Copenhagen Milk Supply Company has become a powerful agency in promoting the health of the city.

Besides the direct advantage thereby obtained, there is an indirect advantage which is even greater. By teaching the inhabitants of the city what is really good and

* Milk is sold by the pound in Denmark; a gallon is about 9 Danish pounds, and a pound a little more than a pint English.

wholesome milk, the whole milk trade has been roused to the necessity of supplying it, and the standard has been raised. In the lively competition which has thus arisen, the Copenhagen Milk Supply Company occasionally suffers commercially.

For example, the uninitiated have some difficulty in distinguishing between the red hand carts of the company and those of its rivals, so closely do the counterfeit carts resemble the original. In this way milk of a quality inferior to that supplied by the company at is times palmed off upon the public; but this sometimes most troublesome difficulty, it is confidently anticipated, will soon be obviated.

Since this was written, in 1887, the financial results have steadily improved, and at present the concern is a perfectly sound mercantile enterprise, yielding a good return for the money invested in it.

This is due not only to the increased annual turnover, but greatly to the fact that the large sums expended at the commencement upon experience are now no longer necessary. Much money had to be spent before many of the simplest details arrived at their present state of perfection, but now the experience so dearly bought by the association is open to all the world, and future milk supply companies need not pay for the same a second time.

The shareholders' capital is £6,000, and the total sum invested about £12,000.

The following Forms, Nos. 1 to 4, are regularly employed by the company:

1.—*Form Filled up by the Veterinary Surgeon Every Fortnight.*

188 Month.	Day.	Name of farm.								Number of cows.						Stock of young cattle.			
		Stock of cattle.		Put in to supply children's milk.	Withdrawn from supplying children's milk.					Withdrawn from supplying sweet milk.				Cows temporarily withdrawn.		How much milk did the cows temporarily withdrawn give at the last trial milking, and what became of the milk?	General condition of the cows.	Are the cow houses kept perfectly clean?	Are the udders in particular kept perfectly clean?
		Cows giving children's milk.	Cows giving sweet milk.		As milked dry.	For tuberculosis of the udder.	For tuberculosis in other organs.	For other diseases.	As suspected of tuberculosis.	For tuberculosis of the udder.	For tuberculosis in other organs.	For other diseases.	As suspected of tuberculosis.	Cows giving children's milk.	Cows giving sweet milk.				

(Signed) .....

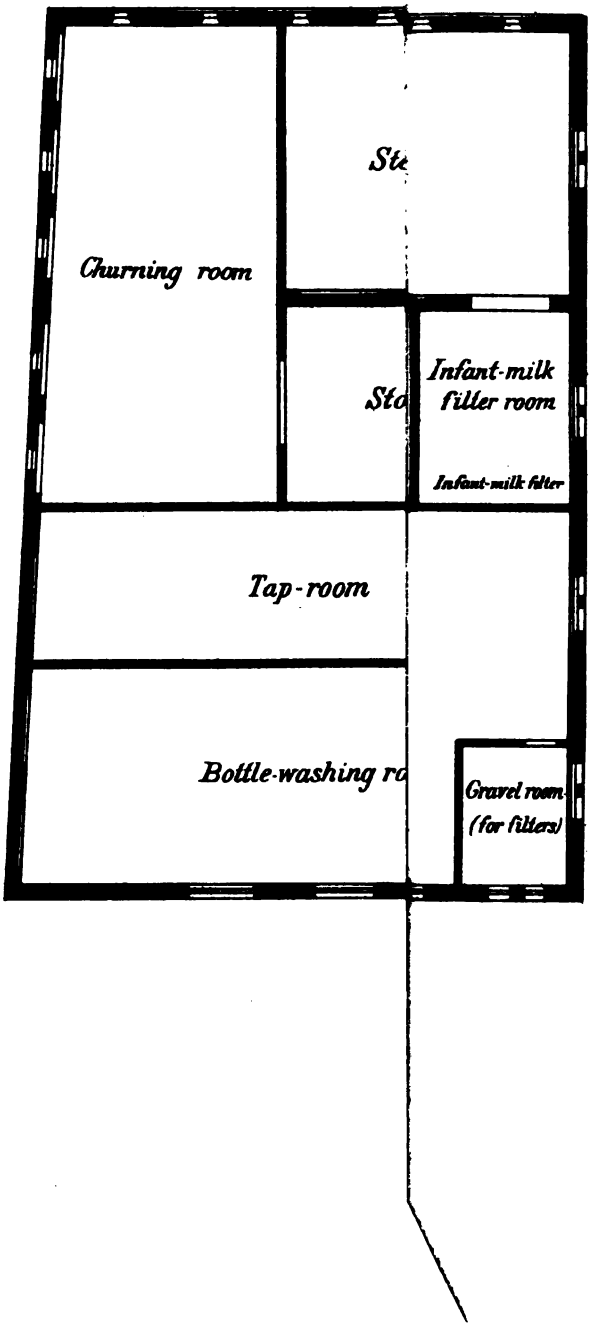
Veterinary Surgeon.

2.—*Form Filled up by the Company's Inspector.*

188 Month.	Day.	Name of farm.					Contractor's name.					General remarks on the condition of the cows and cow houses.
		Is the cooling apparatus in order?	How much ice is in stock?	How is the ice kept?	Condition and size of the milk coolers employed.	General remarks upon the dairy.	Number of cows in stock.	Condition of cows.	Quality of the hay and straw used.	Are the company's instructions followed with regard to feeding?	Is sufficient cleanliness observed during milking?	

(Signed) .....

Inspector.


Ste
Churning room
Sto
Infant-milk
filler room
Infant-milk filter
Tap-room
Bottle-washing ro
Gravel room
(for filters)

3.—*Form filled up by Inspecting Dairymaid.*

Month.	Day.	Name of farm.	Impressions as to the cleanliness exercised during milking.	Faults requiring speedy correction.	Manner of employing ice in cooling.	General remarks.

(Signed) .....

Inspecting Dairymaid.

4.—*Circular, Infectious Diseases, Copenhagen Milk Supply Company, Solbjerg, Frederiksberg.*

As the contractors are aware, it has now been clearly demonstrated by science that various infectious diseases may be transmitted through milk. It is therefore of the *first importance* to the company that no milk should be supplied to them from farms where there is any infectious disease in the families of the persons employed in milking. The company therefore earnestly request every contractor to report immediately any case of this kind.

The highest price in the market will be paid for the milk from such farms, as usual, if the notice is given in time to prevent it from being sold.

Requesting your signature to the enclosed, we remain, etc.,

(Signed) THE COMMITTEE OF MANAGEMENT.

[From the "Liverpool Courier" of September 12, 1888.]

AN IDEAL DAIRY.

"Not long ago we described the processes by means of which Danish Kiel butter has achieved popularity and profit in the markets of many lands. We have now before us a description of another wonderful Danish enterprise in connection with agriculture, and although the element of international commercial rivalry is not involved in the present case, there is much to interest, to instruct, and to be imitated. Dr. Borch describes the system of the Copenhagen Milk Supply Company in the Danish Medical Weekly Review, and Mr. Stewart MacGregor, our Vice-Consul there, has added to many similar past services to his country by giving us a speedy translation of the paper. It is impossible for anyone to read this paper without an enhanced respect for the public spirit, the business energy, and the regard for public health shown by the Danes, and without, at the same time, feeling that, after all, British boasting about British superiority has in many cases but little to justify it. Milk supply companies in this country may not necessarily mean the lacteal fluid provided 'cheap and nasty,' but certainly we have nothing to compare with the company started in Copenhagen ten years ago, and whose career has been one of steadily growing popularity and success.

Not that this company renounces the useful dividend. Five per cent is the sum looked for, after which every advantage goes to the consumers; but it should be added that for the first five or six years it was looked for in vain. Beyond this, the object was to supply absolutely pure milk to the inhabitants of Copenhagen, and the special milk of special cows for the infant population, and as a preliminary safeguard on this point, it was stipulated that the members of the committee of control should have no monetary interest in the concern. Such being the position of the committee of control, it is worth while to see what the committee's instructions are and how they have been carried out.

"The result, we think, will be to show that in the matter of milk supply we have much to learn.

"In the first place, those contractors who give themselves out for the supply of the Copenhagen Milk Company have to submit to a very close and minute system of inspection. The cows on the different farms have been inspected at regular intervals, from the beginning, by competent veterinary surgeons. Those who supply milk for children have been examined once every fortnight, and, according to a recent resolution, come to in consequence of a recent lecture on tuberculosis of the udder and its consequences, a similarly frequent inspection has been ordained for all cows owned by the company's contractors, although it entails an additional cost of £300 per annum. But the inspector also reports upon the condition of the fodder, upon the cleanliness of the cows and the cow houses, and experienced dairymaids are sent to superintend the milking of the cows. In a word, the contracting farmer is at once overlooked and encouraged in every way. For it would be a mistake to suppose that he has to give the lowest estimate. He is offered the highest price as an encouragement to give the highest value, and so complete are the regulations of the company in every way, that his non-compliance with them, even in the matter of concealing the outbreak of an epidemic, would mean monetary loss. The company buys his milk and bears the loss implied by not using it, if he complies with the regulations as to feeding, which are very strict, and with the requirements as to information about cows which are ill.

"And there is another thing done by the company, the importance of which should be fully appreciated in this country. In Aberdeen, the other day, there was a serious outbreak of diphtheria, all owing to milk which had been dealt with by some person belonging to a household infected by this epidemic. And in countless ways it has been shown that while milk is the most nourishing of all fluids—the only one, indeed, capable of sustaining life—and the most grateful to invalids, when it can be obtained in a state of perfect purity, it is also the most sensitive of all as regards the germs of disease. Recognizing this fact to the full, the Copenhagen company buys all milk from contractors among whose employés any such disease may break out, and suffers the loss, provided that immediate notice is given of the fact. At headquarters, of course, equally strict rules obtain. Those employed there have not only to demonstrate their thorough cleanliness, but while they suffer nothing in consequence of visitations of disease which are promptly revealed, and are isolated regardless of expense, they have to expect only the direst consequences from any concealment. And what else is done at headquarters? Notwithstanding all the precautions as to the sources of supply, there is first the analysis, which is not only chemical, but physical. The quality, weight, and density of the milk is ascertained by as many as 1,680 analyses in a single month on the products of 3,000 cows. And while the contractors are strictly bound down to certain rules as to feeding, milking, cooling, and as to the vessels to be used, the process, even after analysis, is very rigid. The matter of temperature is treated as a science, and there is an elaborate and costly process of filtration through sponges.

"We are told, that in spite of all the previous care to secure only clean and pure milk, and notwithstanding a system, all the parts of which have come to fit like those of a highly perfected machine, a vast amount of the most uninviting-looking matter is found adhering to these sponges. That being so, what must be the real condition of the milk of

which the ordinary Briton partakes? He drinks a glass of it as nearly as he can to the bottom, but is warned off by a sediment which the naked eye can detect, and which produces a shudder.

"It is really too bad that the Dane should beat us in this walking-over way. Liverpool is a much more important city than Copenhagen, we may be pardoned for supposing. It is at least three times as big, and its communications with the outer world correspondingly more extensive. Yet it is like an unconsidered village as compared with the Danish capital in this supremely important matter of a pure supply of milk.

"We fear to suggest anything, lest the result should be a concern seeking to screw down the contractors to a level at once unattractive and encouraging to duplicity, in defiance of the model of this ideal Danish dairy, whose motto is that its rivals must undersell, and very largely too. But why cannot our people wake up?"

(From The Dairy, Vol. I, No. 1, January, 1889.)

TOWN SUPPLIES OF MILK.

The milk for that portion of the human race residing in the towns of the United Kingdom is a matter of very great importance, both from a sanitary and an economic point of view, and calls loudly for immediate, comprehensive, and drastic reform. To sustain our argument from the sanitary point it is only necessary to refer to the frequent and alarming outbreaks of zymotic diseases, including enteric fever, diptheria, scarlatina, and measles, which are constantly traced to a contaminated milk supply, and prevail with especial severity in large towns and cities; and, though this danger is bad enough, there is a more serious state of things going on all around us in every town in the kingdom, by which the constitutions of the juvenile portion of our population are being daily impregnated with the seeds of a slow but deadly disease. Medical men, and those connected with the veterinary science, have for several years agreed that tubercular disease in the cow may be communicated through the milk to the human subject, and, in fact, is one and the same disease as consumption in man, which is accountable for a very large proportion of the deaths amongst the youth of our country. It therefore becomes the duty of those who keep dairy cows for the supply of towns, and those who distribute the milk among their customers, to take the greatest precautions to see that the cows are in good health; and we know many large establishments—at all events in London—at which there is a regular system of veterinary inspection at certain stated times. But the bulk of supply for the masses is not looked after in this way. Nor do we believe it would be easy to do so by private enterprise.

"It is a matter in our opinion that calls for government inspection in connection with the local sanitary authorities of towns. A few months ago an article appeared in the Farmer's Gazette on the milk supply of Copenhagen, and since then we have been favored with more extensive notes on the subject, which we publish *in extenso* in in another column, and we know of no other system so complete as Mr. Busck's."

[From the North British Agriculturist for January 22, 1890.]

GERMS OF DISEASE IN MILK.

The subject of the dairy in relation to public health was ably and exhaustively dealt with last week by Dr. Russell, the Medical Officer of Health for the city of Glasgow, in a paper which he read before the Glasgow and West of Scotland Agricultural Discussion Society. Dr. Russell made a strong point of showing that the germs of every kind of disease find in milk a soil in which they could develop and multiply under the most

favorable conditions, so that the exposing milk to any disease germs in the dairy or elsewhere was like sowing a crop of dragon's teeth, which sprang up and attacked the consumers of that milk, however far and wide it might be driven. Perhaps it was somewhat like slaying the slain to pile up proofs in support of that contention ; but the lecturer went on to insist that whenever a cow was in the slightest degree out of health, whenever she showed a trace of tuberculosis about the udder or elsewhere, and whenever she showed eruptions on her teats, her milk should be withheld from distribution on account of the possible danger to the consumer. In the discussion which followed, the dairymen present declared themselves unanimously of the opinion that if the milk of such cows were to be withheld from distribution on account of a possible but unproved danger to the health of the community, then the producers of the milk should be compensated for the loss thus occasioned to them. On this point, it is worthy of remark that this ideal system of providing a healthful milk supply for a city has been fully anticipated by the Copenhagen Milk Supply Company, whose management embodies several new and important features which have never yet been adopted by any milk supply company in this country. A brief but very succinct account of the system carried on by this company has lately been published in the Medical Weekly Review (Denmark), and on account of its importance it has been translated and issued in pamphlet form by Mr. Stewart MacGregor, the British Vice-Consul at that port."

[Lecture given by Dr. G. Sims Woodhead, F. R. C. P. E., F. R. S. E., at Edinburgh, in November last.]

MILK SUPPLY.

Some little time ago, whilst engaged in the study of the relation of milk supply to the spread of certain infective diseases, my attention was called to a small pamphlet written by Dr. Borch, of Copenhagen, and translated into English and annotated by Mr. A. Stewart MacGregor, the British Vice-Consul of that city. I was so deeply impressed with what I then read, that I determined, as I had to go to Copenhagen to study the subject of tuberculosis, to seize the opportunity of examining into the system adopted by the now famous Copenhagen Milk Supply Association, I was specially fortunate in being able to go directly to headquarters, as I had an introduction to Mr. G. Busck, the originator of the whole scheme, who with Mr. Carl Sorensen and Mr. Stewart MacGregor, supplied me with the most precise and full information that I could require. In 1878, Mr. Busck was struck by the fact that his workmen were unable to procure milk except through their spirit dealer, and that where the head of the family did not drink spirits, the answer for a request for milk was, "Give him my compliments and tell him if he does not buy my spirits I cannot sell him my milk." We have got beyond that in this country. In thinking over the matter, Mr. Busck was struck by the fact that there was absolutely no control over the cattle, the farm laborers, adulteration, or contamination. He saw at once that here was a splendid opening and an opportunity for supplying a real necessity. "By providing the capital with milk, a good paying agricultural industrial business might be founded, and besides, and this was more important, the greater part of the inhabitants, and especially the children, for whom milk is indispensable, could be furnished with a produce of a much better quality than that bought at the distilleries or from the milkman; above all, it would be the produce of cows that were healthy and well kept; thus the health of those who used it would not be threatened by hidden dangers." The Copenhagen Milk Supply Association was the outcome of these cogitations.

It is interesting to learn how readily this scheme was taken up by those who were interested in the obtaining of pure milk. Professor Panum, the eminent physiologist, at once gave his support. Dr. Borch, Herr Bille, and other well-known medical and philanthropic men soon showed in what light they viewed the working of this com-

pany by giving their entire concurrence to both the principles and working details of the plan, of which I may give a short sketch.

Beginning at the beginning, we find that every cow on the farms that supply milk to the association is subjected to a fortnightly inspection. This inspection is most thorough and searching. I went down to the country to see how it was carried on, and I was well satisfied that it was not a sham. Every animal, both in the cow houses and in the fields, was carefully examined; notes were made; and these were compared with a similar record made at the last and previous inspections; certain cows were again allowed to come into the milk supply number, and certain others were put out. This goes on every fortnight, and there is kept a regular staff of veterinary surgeons whose duty it is to report on the health of the cattle on the different farms. Particular attention is paid to the examination, at short intervals, for tuberculosis, as it is believed that the development of tuberculosis of the udder is in certain cases so rapid that an early diagnosis of tubercular disease in any situation is imperative in order to avoid the great danger that would arise from mixing with sound milk the milk of cows so affected.

In order further to ensure the purity of the source, the company appeal to the pockets of their farmers, and the way in which they deal with them affords an admirable example of the plan on which they work. They sent out a pledge, of which the following is a copy, to be signed by the contractors: "I, the undersigned contractor to the Copenhagen Milk Supply Company, pledge myself herewith, to the best of my ability, to inquire into every case of infectious disease occurring either upon my farm or among the people employed in working for me, and to report every case of the above kind immediately to the company." In return the company bind themselves as follows: "The highest price in the market will be paid for the milk from such farms, as usual, if the notice is given in time to prevent any of it from being sold." In consequence of all these precautions there is guarantee that the stock at any rate is healthy. Beyond this, however, the company insists that certain regulations as to cleanliness, quality of feeding, and general treatment of the cows shall be observed by the stock owners. The veterinary surgeon can do much in the way of reporting on the condition and quality of the food, on the state of cleanliness of cows and cow houses, and on the diseases from which the animals are suffering. He can specify which animals supply milk for general and which for special purposes, and he can state how much milk is yielded by the cows which are ill and separated from the others, and the use made of it; but he can only visit at regular intervals, and he cannot control the working of the farm when he is not present. To assist him in this work an inspector from time to time pays visits to the various farms to examine the management, the cooling down of the milk—in summer a very important item—and to see that cleanliness is observed during milking. In this he is assisted by an experienced dairymaid, who pays sudden and irregular visits to the various supply farms.

By the rules of the company, the farmers are bound to cool the milk, immediately after milking, down to 41° F., so that it may arrive in good condition in Copenhagen, where the temperature of the milk must not be more than 50° F. at the time a sample is taken, immediately on the arrival of the milk.

"To provide for this," says one of the regulations, "the average productions of the cows at each farm (as shown by the usual fortnightly trial milkings) must be calculated, and thirty pounds of ice (making due allowance for waste) must be kept in stock for every eleven gallons of milk produced." The milk has to be sent off so that it may just catch the train, and it is never allowed to stand in the sun, either in the station or in the train. In all this, however, much has to be left to the honor of the contractor. In most instances the system works well, more especially as there is every inducement offered to keep faith with the company.

The following additional regulations are also most rigorously enforced by the officers of the association:

"The milk of cows newly calved must not be supplied until twelve days after calving." The importance of insisting on this has already been mentioned. "The food of the cows must be such that the milk has no disagreeable taste from it. Swedish and other turnips must not be used at all, nor, in the autumn, turnip leaves. Carrots and mangolds may be used, but at most half a bushel per cow to at least seven pounds of corn. One and a half pounds of rape cake to at least five pounds of oats and barley, exclusive of hay, may also be given.

"Brewers' grain and similar refuse from distilleries are strictly forbidden, as is also every kind of fodder which is not fresh and in good condition." The proportions in which the different kinds of food are to be given must be arranged with the company before the contractor commences to supply the milk.

"In summer stall feeding will not, under any circumstances, be permitted. The cows must be fed in the open air, and upon clover and grass. Should green oats and vetches be given while the animals are fed upon this description of food, the milk will not be received by the company. The contractors must be willing, on word of honor, to reply to all inquiries made by the company on this or other subjects, and to report at once any deviation from the rules imposed. Should the company, following the advice of their chemical and medical authorities, consider the milk of an inferior quality—and therefore unfit for use—they shall be entitled, without any compensation to the contractor, to refuse to take any milk supplied by him."

Let us now follow the milk after its arrival at the Frederiksberg station (a suburb of Copenhagen).

The milk begins to arrive at the premises about 9 p. m. Almost all of it is sent in at night, the farmers setting their morning milk in ice for twelve hours, after which it is skimmed, and the cream and skimmed, or half skimmed milk, as it is called (for it contains 1 per cent of butter fat), is forwarded with the whole milk from the evening milking. Upon its arrival at the premises of the company it is sampled for subsequent analysis, tasted, and its temperature noted. The skimmed milk and ordinary sweet milk are then placed in the cans (as they are) in large ice tanks, there to remain till early next morning, when they are run through a filter, and tapped off into the vessels in which they are to be taken around the town.

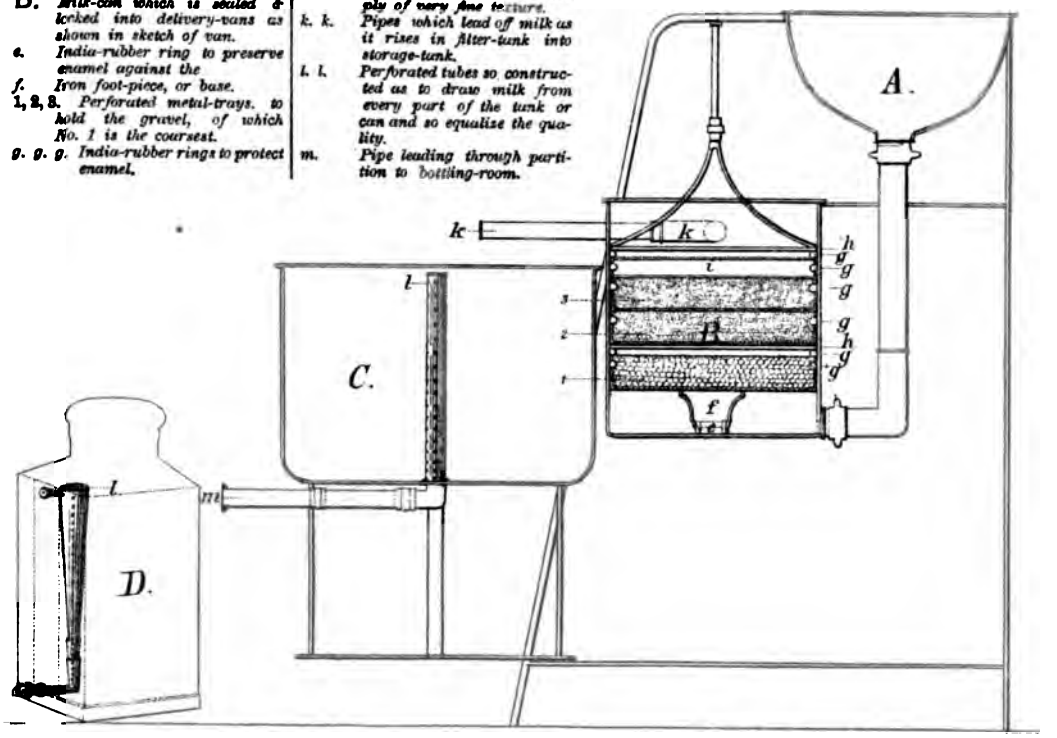
To return to the cream and infant milk. The former, after being weighed and sampled, is filtered, and then bottled in clear glass bottles, which are laid away in ice until delivery next morning. The "infant milk," so called on account of special precautions having been taken to secure its absolute purity and wholesomeness, is likewise put through another filter and bottled. At one time distinctions even greater than those now insisted upon were made between this variety and ordinary sweet milk, but, as Dr. Woodhead has said, "the sets of regulations have gradually approached each other, not by levelling down, but by a levelling up process." Only the very healthiest cows are kept for the children's milk supply.

During the winter months the food for the cows must be hay, wheaten bran, straw, oats, barley, and a small quantity of carrots. Of course a higher price has to be paid for such milk, and there is perhaps less profit on this than on ordinary milk, but those who have the management and control of the association consider that the welfare of the children of the community should be the first consideration in a matter of this kind, and they accordingly sacrifice a certain percentage of their profits for this laudable object.

The filter consists of two enamelled iron tanks placed at different levels. A pipe in the form of a syphon has its long limb connected with the bottom of the upper tank and its short limb with the bottom of the lower tank, so that milk poured into the upper tank comes up as a kind of spring at the bottom of the lower one. In the bottom tank are three layers of gravel; that in the lowest layer about half the size of a pea, in the

Filtering Apparatus.

A. *Receiving-tank*
B. *Filter*
C. *Storage or mixing-tank.*
D. *Milk-can which is sealed & locked into delivery-vans as shown in sketch of van.*
e. *India-rubber ring to preserve enamel against the*
f. *Iron foot-piece, or base.*
1, 2, 3. *Perforated metal-trays, to hold the gravel, of which No. 1 is the coarsest.*
g. g. g. *India-rubber rings to protect enamel.*
h. h. h. *Galvanized rings.*
i. *Five ply of filter-cloth of close texture, surmounted by one ply of very fine texture.*
k. k. *Pipes which lead off milk as it rises in filter-tank into storage-tank.*
l. l. *Perforated tubes so constructed as to draw milk from every part of the tank or can and so equalize the quality.*
m. *Pipe leading through partition to bottling-room.*



middle layer somewhat smaller, and in the third or top layer a little larger than a pin's head. The layers are separated from each other by perforated tin trays.

On the top of the uppermost layer of gravel are six layers of fine cloth. The whole is kept in position by a pyramidical frame work which presses down the tin trays. As the milk rises to the top of the tank it passes off into a large storage or mixing receptacle, and thence into the bottling room. The company are glad to get rid of the sponges, with which many difficulties have been experienced. The cost of sponge filtering has lately been £250 per annum, but the gravel process can be carried out for much less.

There are four of these filters—one small one for cream, one very big one for children's milk, and two large ones for the other milks. Through one of the two large ones the sweet milk is first passed, through the other half-skimmed milk, and then the buttermilk, so that the lower classes may not interfere in any way with the better qualities. From the storage tanks the milk is drawn off and weighed into larger or smaller tins to supply the various customers and milk distributors, an accurate list of whose requirements is prepared from the returns of the previous day. The cans, after being filled and weighed, are labelled, tied up with a thread, sealed with a leaden stamp seal, and taken off to the milk carts for distribution. For the children's milk there is, as we have said, a separate filter placed in a separate room. In the next room is a most busy scene. The milk is led by a pipe into a machine similar to that used for bottling beer, at just such a rate that it will keep six small taps going. From these taps a skilled bottler fills clear glass bottles, each of which holds nearly a quart. As these are filled they are passed on to a woman who corks them by machinery, and hands them on to the sealers, who first tie threads across the cork, and then put on a leaden seal which is compressed and stamped by the foreman, so that until the milk gets into the hand of the purchaser there can be no tampering with it without his knowledge. The bottles are then placed in racks, in boxes placed there by different vanmen, each one of whom knows the number he requires, are covered with ice, and are sent out to be distributed to the company's shops or by carts and vans. So important is this trade that the apothecaries undertake the distribution of the pure children's milk, especially on Sunday, when the other shops are compulsorily closed.

The night I was in there were 2,500 of these bottles ordered. The cream (about 1,500 bottles) is treated in the same way as the children's milk—every can is weighed, its contents tasted by an expert, sampled, and submitted to analysis both on the premises and in the chemical laboratory, under Professor Bohr's supervision. It is divided into first and second quality, and a taster has sometimes to examine a couple of hundred of samples in a single day. After this examination it is filtered and bottled in half-pint, pint, and quart bottles, sealed, put in boxes, iced, and left for the night ready for each carter in the morning. The bottling commences about 9 o'clock at night, goes on for three or four hours, and then begins again at about half past two in the morning, when about fifty people may be seen working away like a lot of bees, handling and pushing about bottles as though they were engaged in some wonderful conjuring trick or other.

The care does not stop here. The milk carts are so constructed that there can be no tampering with any of the cans. Every can and every van door is sealed. In all cases the cans are surrounded by ice in hot weather, so that every precaution is taken that the milk shall reach the consumer in good sound condition. Every milkman is in uniform, and every cart and van has the trademark of the association—a red and white clover blossom with green leaf on a black triangle painted on a pink ground. The greatest compliment offered to the success of the association is that numerous private companies have imitated this emblem, as far as they could without infringing the trademark laws.

The returned skimmed milk is sold at a greatly reduced rate, or some of it is given out gratis to the very poor of the district, who are extremely anxious to obtain this pure *good* milk. The sweet milk which cannot be used is made into butter, which is

sold at a somewhat lower rate than that made from the best cream, the skimmed milk being given away.

There are over 180 people employed in the establishment, whose work during the daytime is as follows:

First, there are the cans to be washed. This is done by rinsing them out with cold water two or three times; they are then thoroughly scrubbed with hot water and soda and sterilized by jets of steam driven into them at high pressure, after which they are allowed to drain, mouth downwards, on racks, and sent off to their destination, or labelled for the reception of the orders for the next day.

The bottles as they come in are most carefully washed, first with warm water and soda; the inside is then scrubbed with a revolving brush and boiling water, and the outside is treated in the same manner with a small hard brush, after which they also are carefully rinsed with clean cold water.

The gravel used in the filters is cleaned by boiling and stirring about in hot water and soda, till the water comes off quite clean. It is then steamed at a temperature of about 302° Fahrenheit. The particles are mixed again and again, and the utmost precaution is taken to get rid of every impurity, Mr. Busck, the inventor of the whole process, laying great stress on the necessity of having the filtering medium thoroughly sterilized each time it is used. The filth that comes from the gravel and sponges is astonishing and disgusting; yet more care and cleanliness than that shown upon the farms supplying the association could not possibly be observed.

In such a large establishment there must be the most absolute discipline; promotion goes by merit and not by favor, and the slightest deviation from regulations is visited by most severe punishment in the form of degradation or dismissal, and attention to the rules is insured, as far as possible, by giving a premium to those who obey them to the letter.

There is the strictest supervision of the health of those employed. Should any infectious disease make its appearance in the family or residence of any of them, they are ordered to report the fact at once to the medical officers employed by the association, who are authorized to suspend them from work until they consider it safe for them to resume. Although suspended from work these people are paid their full wages, so that they have not the slightest temptation to conceal any case of illness occurring around them from the doctor. In addition to this, they are fully aware that should they be detected in any concealment they will be punished by instant dismissal, and as the wages paid are exceedingly high, there is every inducement to conform to these rules as to notification of infectious diseases. The doctors also make a regular inspection of all the employés and their families, so that every possible precaution is taken.

Some idea of the enormous business done by the association may be gathered from the following figures: In 1880 the daily consumption of milk was 13,677 pounds (a pound is nearly a pint), whilst in 1889 it had risen to 36,099 pounds (18 tons per diem, or 6,000 tons in a year). Of this a very large proportion (1,000,000 pounds per annum) is supplied to asylums, children's homes, hospitals, and like institutions at greatly reduced rates, or given gratis to the very poor.

The Copenhagen Milk Supply Association has done a great work. Mr. Busck and his coadjutors have solved a most difficult problem; they have built up a model, which has been copied with more or less accuracy and attention to detail in many of the large continental cities—St. Petersburg, Paris, Berlin, Amsterdam, and Stockholm.

NEWEST REGULATIONS FOR CONTRACTORS.

A.—*Feeding and Management.*

I. The food of the cows must be of such a nature and quality that no bad taste or taint may be imparted to the milk by it.

a. Brewers' grain and all similar refuse from distilleries are strictly forbidden, as also is every kind of fodder which is not fresh and in good condition.

b. Turnips, kohlrabies, and rutabaga are absolutely forbidden; no kind of turnip leaves may be used.

c. Carrots and sugar beets (mangolds) are permitted up to half a bushel per cow, but only when at least seven pounds corn, bran, and cake are given along with them. Cows supplying infant milk may get carrots, but never more than one-quarter bushel per head.

d. Oilcake. Rape seed cake is the *only oilcake* which may be used. One and one-half pounds is the furthest limit, along with at least five pounds corn and bran. Infant milk cows must not receive any cake.

e. The proportions in which the different kinds of food are to be given must be arranged with the company before the contractor commences to supply milk.

II. Stall feeding in summer will not be permitted under any circumstances. The cows must be fed in the open air upon clover and grass. Vetches are forbidden. In a case of necessity dry food or cut corn may be given, but on the field.

III. In autumn the cows must be clipped on the udder, tail, and hind quarters before being taken in.

IV. Calving should be so regulated that the milk sent in during the months of September and October is not less than two-thirds of the largest quantity sent in any other month.

V. The milk of cows newly calved must be withheld for twelve days after calving, and must not be less in quantity than three imperial quarts per day.

B.—*Milking.*

VI. The greatest cleanliness must be observed during milking, and the milk must be strained through a wire sieve covered with a clean woolen cloth.

VII. *Immediately after milking, and during all seasons of the year, the milk must be cooled down with ice water to 40° Fahrenheit.*

VIII. Every contractor must be provided with a Lawrence cooler, which he can obtain on hire from the company.

IX. Thirty pounds of ice, making due allowance for waste, must be kept in stock for every 100 pounds milk produced, which can be calculated from the fortnightly trial milkings.

C.—*Delivery of Milk.*

X. *a.* The milk must be delivered at the nearest station once or twice daily, according to the requirements of the company, either as whole milk, or as "half-skimmed" milk and cream.

b. The milk must not be sent from the farm earlier than is absolutely necessary for its arrival in proper time at the railway station.

c. In summer the van for conveying the milk to the station must be provided with a cover, to protect the milk from the heat of the sun.

XI. The company will supply the cans necessary for transport.

XII. The company cleans the cans before returning them, but they must be carefully rinsed out with cold water as soon as they reach the farm again, to get rid of any dust or dirt which may have adhered to them during the return journey.

The cans must be placed in a cool, airy spot until again required, protected from all impurities, with lids off, and bottom upwards, but in such a position that the air can freely get into them.

XIII. The cans may not be used for any purpose but the conveyance of milk.

D.—*Further Regulations.*

XIV. The contractor is bound—upon word of honor—to answer any inquiries made by the company concerning the milk supply.

XV. The contractor must allow any of the veterinary surgeons of the company to inspect his cattle as often as the company requires, and must drive the surgeon to and from the station. The contractor is bound to follow out closely the instructions of the veterinary surgeon.

XVI. Any cow declared by the veterinary officer to be suffering from tuberculosis must be instantly and entirely separated from the rest of the herd, and should be got rid of as soon as possible.

XVII. The contractor must promise immediately to inform the company of any case of illness which may arise between two visits of the veterinary officer. If necessary, he must withhold his milk until the veterinary officer arrives and inquires into the circumstances. In such a case the full price will be paid for the milk.

XVIII. The contractor, to the best of his ability, must watch over the health of all who reside on his farm or work upon it; also the families of the latter. Should a case of infectious disease arise among any of them, he must immediately report the fact to the company, and withhold his milk, which will nevertheless be paid for as usual if these conditions are fully complied with.

XIX. Either of the contracting parties, after having given six months' notice, can terminate the contract on the following 1st of January.

XX. Should the company find the milk of inferior quality, and therefore unfit for sale, they shall be entitled to refuse to take it, without giving any compensation to the contractor.

XXI. If, owing to an epidemic or other unavoidable cause, the sale of milk in Copenhagen should be suspended, the contractor must withhold his milk for a shorter or longer period without compensation.

Contractor's Pledge.

I agree to the above.

[Signature of the contractor.]

Such provision having been made to prevent the ill effects of disease, it is interesting to see how far experience has shown so much care to be advisable.

The following table, therefore, is taken from the May number of the *Maanedskrift for Dyrlæger* (Veterinary Surgeons' Monthly Journal), in an article entitled "A Little About Copenhagen Milk Supply:"

Withdrawal of cows on account of tuberculosis in 1889.

	No. of herds.	No. of cows.	Withdrawn on account of tuberculosis.		Herds attacked.	Herds free from tuberculosis.
			No.	Per cent.		
Contractors for the whole year	35	about 2,675	105	3.93	26	9
Contractors for part of the year	13	about 1,710	48	2.81	11	2
Total	48	about 4,385	153	3.49	37	11

To judge, therefore, how far consumers of milk have been protected, and whether there has been occasion for such costly and careful supervision, we must bear in mind that on these admirably managed farms—*where the cows are fed and even groomed, like valuable horses*—in one year 153 animals have been withdrawn on account of tuberculosis alone (among them three for tuberculosis of the udder). But besides the above dangerous disease, many animals have been temporarily withdrawn on account of sore teats, retention of the afterbirth, inflammation of the womb, and inferior quality of milk, when the cows are too nearly becoming dry.

To these we must add the herds whose milk must be withheld in years when there is much sickness among the families of the workpeople, and then we shall have some idea of what is done by this dairy company to protect the public.

KINDS OF MILK SOLD AND PRICES OBTAINED.

The following are the kinds of milk, etc., sold by the company and the approximate prices obtained from them :

		Per gallon. s.	d.
Half-skimmed milk		0	5
Buttermilk		0	5
Sweet milk		0	10
Infant milk	In ½-pint, 1-pint, and 1-quart bottle—imperial measure.	1	0
No. 1 cream		5	0
No. 2 cream		3	0

This "half-skimmed" milk is *the most nourishing article of food that can possibly be obtained for the price at which it is sold*, viz., 1¼d. per quart.

The arguments used against centrifugally separated milk do not apply to half-skimmed milk; it is got by setting the milk twelve hours in ice, by which the finest and best of the cream is invariably thrown up. Nearly 1 per cent. of butter fat remains in the milk after this half skimming. The milk is only twelve hours old, and, as it has been in ice all that time, it is perfectly sweet and fresh. It has simply been deprived of 2 to 3 per cent. of its fat, which can be obtained far more cheaply in some other form. All the other elements for a growing child are there intact—the casein or nitrogenous matter, which forms the flesh, sinews, hair, and skin; the saccharine or carboniferous matter, which is employed in the supply of animal heat; and the salts, which help to build up the bony frame of the body. For grown-up people, especially if inclined to corpulence, half-skimmed milk is as good and better than whole milk. And the price—*just one-half*.

Charitable societies here purchase milk tickets in thousands at the dairy, enabling the holders to get the purest and most wholesome milk in the country at the same price that it costs the company itself to obtain it. Those tickets are not distributed gratis, but sold to persons of small means at so low a figure that *even milk fo the most inferior quality cannot be had for less*. This surely is an admirable form of charity, and unquestionably secures incalculable benefits for the very poor.

The storehouses hold about 1,200 tons of ice, valued at £300, and this quantity has proved sufficient to meet the requirements of an annual sale of over 6,000 tons of milk and cream.

In the first year (1879) about 400,000 gallons of milk and cream were sold; last year (1889) about 1,300,000 gallons. This quantity was the produce of some 4,300 cows, and was sent from about fifty farms, all chosen as far from large towns as possible, in various parts of the country.

WAGES.

The drivers receive about one farthing for every two Danish pounds (or imperial quart) of sweet, skim, or butter milk that they sell, and a little more than a halfpenny for the same quantity of cream. From their total earnings about 13½d. are deducted

for the use of horse and cart, and half that sum for the assistance of one or two boys. Assured wages of men, 2s. 9d. in cash per day, also their livery, and as much milk as they can drink on the premises. Boys under 14, 11s. per month for half a day's work, they being obliged to attend school during the afternoon. Boys over 14, 16s. 6d. to £1 7s. 6d. Two kroner (2s. 3d.) are placed in bank to each boy's credit every month, in order to pay for shoes, etc., but this sum is forfeited in event of misbehavior.

The present staff of workpeople numbers over 180 persons, and these manipulate the above-mentioned very large quantities of milk and cream.

CONCLUDING REMARKS.

(BY A. STEWART MACGREGOR.)

In the foregoing pages we hope that, to some extent, we have succeeded in showing that the Copenhagen Milk Supply Company has labored in a good cause; that its work has been admirably executed; and that it has clearly demonstrated doing such work *can be made to pay*. The importance of the subject, and a desire to secure for some of our great towns at home advantages similar to those which for more than eleven years have been enjoyed by Copenhageners, have induced us, for the third time, to return to this matter. Some time ago foreign office circulars were sent to British consular officers all over the world, instructing them to report on any matters "likely to be of interest to British agriculturists," and we feel assured that milk supply is a subject which might and ought to interest not only such persons, but also the whole community at large. Recently we heard of 120,000 people so poor as to be living in one-roomed houses in one of our great commercial centers. Would it not be worthy the attention of some of our philanthropists, and indeed of our practical business men also, to secure for such the best and cheapest of all food—pure milk? Would it not be an inestimable advantage were a system similar to that employed in Copenhagen to be adopted in every large town in Great Britain? Physical development would assuredly be promoted by it and disease prevented.

To do this in Britain, as in Denmark, we must have trained dairy hands, and call in the chemist and the veterinary surgeon to direct and aid them. The milk must be properly filtered, and both it and the cows regularly examined. We do not even require to wait until a dairy reformer, like Mr. Busck, shall arise among us. The advice which he gave as regards Copenhagen is equally good for our large towns. Other countries have shown their appreciation of his example by following it. When do we intend to do likewise?

Having reviewed the work done by this company, collected and arranged the latest information regarding it, and seen what Danish and British medical authorities have written on milk supply—though most of their accounts do not deal with the association in its present state of perfection and success—in order to look at the other side of the question (there are, we know, two sides to most questions), and see what is meant by uncontrolled milk supply, we may quote the following, which, we regret to say, is from a British newspaper—*The Evening Times*. It is in the form of a letter, and is headed: "*The Dangers of Milk.*" It begins:

"This milk business is no laughing matter. * * * Dairy keeping and dirt have long seemed to me synonymous; and now, it appears, we must add a stronger word—death."

The writer then, referring to Dr. Ernst's researches, proceeds to show that while the milk of only 10 of the 36 tuberculous cows experimented upon had given positive results (*i. e.*, was proven to contain tubercle bacilli), Dr. Ernst had said:

"The large number of cases in which the organisms were found seemed to indicate their presence in a still greater proportion of cases, *if only a sufficiently thorough examination of all the milk could be made.*"

The letter-writer continues:

"Let us, in short, have an anti-milk league, until we have a substantial guarantee that what we buy is really milk, and not a solution of tubercle bacilli. Heads of families have a duty in the matter, namely, to see that their little ones are not poisoned."

We, then, with our poverty-striken millions, have got so far that we are advised by one of our own people to give up using the best and cheapest food that can be had for money!

Is not this another case of the foreigner, and the same foreigner, beating us a second time, and in another field? Who does not know something of what the Danes have done in butter making during the last few years? Some twenty years ago, when the writer of these lines was young, we listened, probably with some little feeling of British superiority, to a Danish "mud student," who, during a visit to one of our "crack" farming counties, remarked: "Yes, you dave done a great deal for agriculture, but the day will come when you too, like others, will be eclipsed and fall behind."

These observations seem striking now, and yet, if we speak to some of our best agriculturists about the enormous quantities of Danish butter which are imported into our country, the reply will probably be, "The best British butter is as good as (they mean is much better than) any foreign." This may be the simple truth, but, unfortunately, it is not the whole of it. Look at the progress abroad. Ten or twelve years ago the Danish markets were filled with so-called "Peasant butter," *i. e.*, butter made on small farms, as distinguished from that which is called "Estates butter," and which came from the dairies of the great proprietors.

We must not go too deeply into the butter question here; elsewhere we have described what has been done in Danish coöperative dairies, but this much we will say—thanks to Danish science, intelligence, and hard work—the third and fourth rate articles, called "Peasants' butter," are now obsolete. The general standard is now too high to leave any place for it.

We may say, if we like, our butter is as good as any made abroad, but why shut our eyes to the fact that the foreigner supplies us with a uniform article that is infinitely superior to our average one?

Aye, his average, and even inferior qualities, are adulterated after they get to Great Britain, and readily purchased there as being still superior to much of ours. If we can make as good an article as his, why don't we do it? Why do we go on paying £27,000 a day for foreign butter and complain of bad times? Is there any reason to continue furnishing our markets with good butter by the pound when it ought to be by the ton?

The exceptionally fine qualities of butter that we find, sporadically, in large districts at home are common things abroad. Does any one, speaking of milk supply, say we must have government aid. The Danes have had none. Well, we must have more cows. To this we reply, that is quite unnecessary. Next to the disappearance of a low average quality of butter, one of the agricultural matters which it has interested us most to notice in Denmark is this, that the great change has been brought about, practically, without increasing the number of cows. This we say, although the opposite, quite wrongly, has been stated in certain journals, where some one has gone by figures and not by facts. More cattle there may be, but not many more cows.

In 1873	there were in	Denmark	898,000 cows.
In 1883	" "	"	898,700 "

What is the difference in the export of butter? Some statistics we have before us, and they show—

In 1870	about	130,000 cwt.
In 1883	"	357,000 "

Nearly three times the butter with only 700 more cows.

These facts speak volumes for the science and good management that have here been working side by side. If we go by results we must admit that, in butter making and in milk supply, the Danes can teach us a great deal. They have attained their present high position from small beginnings, and no right-thinking person can grudge honest labor its success.

We say, if we cannot lead in so good a cause, let us follow after; let us do as they have done. Even if we bestir ourselves (and, with our resources, who can doubt ultimately a good result?), even if we make great progress, thanks to the start which he has got, "the foreigner" will probably give us the lead for a long time to come; he himself is not standing still.

Let us not undervalue him. He has done us a great service by supplying us with first-rate dairy products; he is perhaps doing us a greater by showing us how we can mend our ways. We need not be jealous of him, nor he of us; surely the world is big enough for all our good work and his.

The British agriculturist (the average Briton) clings to old customs, and has a strong, natural (frequently far from culpable) objection to extraneous control; but even if our dairies must be examined by some new milk supply company's veterinary officers, let us think of the increase of good cheap food among us; let us remember the raising of the town milk standard, and then surely agriculturists and charitable societies at home will combine and *work for the decrease of infant mortality* in the dingy courts and crowded alleys of that great country, of which each of us, however little his individual part in it, is so justly proud.

It is trusting that its contents may catch the eye of some one able and willing to work for the greatly needed reforms in practical agriculture and in hygiene that this little book, in the midst of much other work, is concluded; and remembering how many things, insignificant as compared with milk supply, have been nobly supported by our people, not unhopefully now sent forth into the world.

AUSTRIAN EXPORTS TO THE UNITED STATES.

Statement showing the value of declared exports for the several Consular Districts of Austria-Hungary to the United States during the years ended September 30, 1890 and 1891, under the old and new tariffs.

Articles.	1890.	1891.
Free of duty.		
Albumen	$7,966.68	$7,395.60
Antiquities	2,064.11	2,019.21
Argols	241,800.59	140,165.51
Amber	6,184.42	2,974.01
Bed feathers	100,298.90	166,292.79
Cuttle-bones	15,995.01	19,913.60
Drugs and chemicals	60,188.97	196,619.97
Gum	128,349.04	107,144.85
Hair, animal	8,151.97	21,930.97
Herbs, roots, and leaves	45,546.51	45,900.14
Magnesite	2,647.09	2,611.06
Meerschaum, crude	59,369.84	58,351.59
Mineral water	122,201.49	58,465.99
Ozokerite and ceresin	53,091.10	22,487.24
Rags	2,516.64	3,340.15

Statement showing the value of declared exports for the several Consular Districts of Austria-Hungary to the United States—Continued.

Articles.	1890.	1891.
Free of duty—Continued.		
Seeds	$14,946.41	$7,128.04
Skeletons	2,285.18	2,873.07
Sugar	2,139,727.33	6,861,784.09
Umbrella sticks	52,920.23	62,315.62
Total	3,066,251.51	7,789,713.50
Duties unchanged.		
Artificial flowers	4,449.44	$7,909.15
Beer	57,978.59	75,364.00
Black lead	19,164.91	12,543.06
Books and papers	16,634.31	22,488.05
Carlsbad sprudel salt	48,206.87	31,890.14
Fans	220,384.18	204,900.53
Furniture	120,074.04	105,723.89
Hollow ware	11,966.88	13,588.72
Hemp	20,909.17	5,965.79
Linen goods	958,851.11	599,290.57
Cotton goods		235,454.27
Machines and parts of	5,363.32	5,522.60
Matches	1,153.82	1,408.30
Metal ware	119,757.72	135,367.69
Mirror glass		84,211.63
Oils and paints	29,275.50	24,486.25
Paper	45,809.20	42,981.89
Porcelain	682,192.30	671,203.49
Surgical instruments	2,628.25	5,280.21
Silk goods	402,333.30	348,445.42
Smokers' articles	169,717.51	144,483.57
Sponges	12,191.12	13,174.12
Stained glass	19,470.30	14,237.11
Stationery	4,991.50	17,776.01
Toys	18,731.95	20,562.65
White lead	14,041.65	8,614.10
Wines and liquors	120,113.97	115,775.60
Wooden goods	15,046.35	38,802.85
Wool	24,506.53	121,763.33
Total	3,165,943.79	3,129,214.99
Duties reduced.		
Art, works of, formerly 30 per cent., now 15 per cent	28,478.60	16,059.28
Hair, human, formerly 20 per cent., now free	29,994.17	48,233.56
Insect powder and flowers, formerly 20 per cent., now 10 per cent	124,562.78	80,396.21
Leather, tanned, formerly 15 per cent., now 10 per cent	123,603.87	153,985.62
Skins, kid, formerly 30 per cent., now 20 per cent		
Potash, formerly 3 cents per pound, now free	14,317.76	41,328.29
Total	320,957.18	340,002.96

Statement showing the value of declared exports for the several Consular Districts of Austria-Hungary to the United States—Continued.

Articles.	1890.	1891.
Duties increased.		
Baskets, formerly 30 per cent., now 40 per cent	$21,421.42	$18,110.78
Beans and lentils, formerly 10 per cent., now 40 cents per bushel	319,132.86	250,661.17
Brushes, formerly 30 per cent., now 40 per cent	45,040.58	21,197.11
Buttons, horn, formerly 25 per cent., now 50 per cent		
Buttyns, pearl, formerly 25 per cent., now 2½ cents a line and 25 per cent		
Buttons, bone or ivory, formerly 25 per cent., now 50 per cent	2,484,645.47	363,462.00
Buttons, vegetable ivory, formerly 25 per cent., now 50 per cent		
Buttons, sleeve, shell, formerly 25 per cent., now 50 per cent		
Buttons, collar, bone, formerly 25 per cent., now 50 per cent		
Chenilles and embroideries, formerly 40 per cent., now 60 per cent	17,192.82	14,084.44
Cloth and woolen goods, formerly 35 cents per pound and 40 per cent., now 44 cents per pound and 50 per cent	298,061.64	225,647.58
Cutlery, formerly 35 per cent., now 35 cents per dozen and 30 per cent	17,376.52	11,455.98
Dresses, formerly 50 per cent., now 60 per cent	4,337.14	5,367.35
Leather goods, formerly 30 per cent., now 35 per cent	57,698.02	55,803.55
Jewelry, formerly 25 per cent., now 50 per cent	392,094.94	232,473.43
Prunes and plums, dried, formerly 1 cent per pound, now 2 cents per pound	999,605.34	873,482.72
Apples, dried, formerly free, now 2 cents per pound		
Glassware, formerly 45 per cent., now 60 per cent	947,022.53	946,765.27
Gloves, formerly 50 per cent, now 50 per cent. and $1 to $1.50 per dozen	256,240.56	124,336.26
Hops, formerly 8 cents per pound, now 15 cents per pound	27,179.78	62,963.21
Maccaroni, formerly free, now 2 cents per pound	3,103.30	4,179.73
Musical instruments, formerly 15 per cent., now 45 per cent	28,716.83	32,222.60
Pulp, formerly 10 per cent., now 20 per cent	161,205.57	170,877.80
Wax figures, formerly 20 per cent., now 25 per cent	458.40	2,865.45
Wicks, formerly 35 per cent., now 40 per cent	1,219.33	1,979.15
Total	6,081,753.05	3,417,935.59

RECAPITULATION.

	1890.	1891.
Free of duty	$3,066,251.51	$7,789,713.50
Unchanged duty	3,165,943.79	3,129,214.99
Reduced duty	320,957.18	340,002.96
Advanced duty	6,081,753.05	3,417,935.59
Miscellaneous	35,421.07	59,670.88
Total	12,670,326.60	14,736,537.92

Increase of the twelve months ended September 30, 1891, $2,066,211.32 over the corresponding twelve months of 1889-90.

JULIUS GOLDSCHMIDT,
United States Consul General.

UNITED STATES CONSULATE GENERAL,
Vienna, Austria, October 8, 1891.

THE NEW SWISS TARIFF.

REPORT BY CONSUL BYERS, OF ST. GALL.

Switzerland, by a popular vote of the people, adopted a new tariff law on the 18th day of October, 1891.

The law will probably go into effect at the beginning of 1892. The submission to the people after the law had been passed by the Chambers, on April 10, was the result of a popular petition in the usual form. Out of a total vote of 377,708, some 218,636 were cast for the law and 159,072 against it. The majority in its favor, large as it was, did not approach the figures anticipated by the friends of the revision, and yet it had been urged on the voters by every conceivable means known to the press, and to the almost hundreds of societies and political clubs favoring it.

The public feeling, as judged by the newspapers preceding the election, seemed almost unanimous for a higher tariff, and yet Switzerland is a country of almost free trade traditions. It would be a mistake, however, to regard the adoption of this new law as a sign of a complete revolution in the minds of the Swiss people as to free trade or high tariff.

The general economic principle of levying duties in general, or of protection, or free trade, were not the *main* ideas under consideration by the Swiss people at all. There were *special* reasons, and *special* arguments placed before the voter for the adoption of this new law.

The Swiss treaties with other countries were about expiring; new ones were to be made, and it was argued that these new treaties could be secured to *better advantage* if Switzerland had some important tariff privileges to exchange with other people.

It was also necessary, in an economic sense, to bring a little pressure to bear on those countries that were selling much to Switzerland and buying little in return. It was pointed out as a statistical fact that the little country of scarce three millions of people bought from its immediate neighbors, Germany, France, Austria, and Italy, 752,000,000 of francs worth of products, whereas these four states, comprising 150,000,000 of people, bought of Switzerland only 394,000,000, being an unfavorable difference in the balance sheets of 358,000,000.

The difference calculated on the individual person struck the Swiss voter as something enormous. To these four above-named states Switzerland was selling only *fifty cents* worth of exports to the head of the population of those countries. She was buying of them *fifty dollars* worth to the head of her own population, or one hundred

times as much as she was selling. The principle "you buy of me, and I will buy of you," or a fair exchange in trade between countries, seemed to the Swiss to be forgotten on the part of her great neighbors. Hence it was that a majority of the Swiss people determined to approach the coming treaty-making business with something in their hands to offer their neighbors in return for what they were willing to take. The old Swiss tariff was adopted in 1884 and amended in 1887. A new one already in 1891 would indicate that the idea of tariff in free trade Switzerland is not quite a new thing. This new law they contend, however, is not much of a tariff after all, and compared with the American it is, of course, a very low one.

It would be out of place to give many of the details of this new Swiss tariff here, but a few of the more important items of duty appearing in it, as *changed*, are as follows:

	Duty under new law.		Duty under old law.
	Francs.		*Francs.*
Oxen ..... per head	30.00	Oxen ..... per head	25.00
Cows ..... do	25.00	Cows ..... do	20.00
Calves ..... do	20.00	Calves ..... do	5.00
Hogs ..... do	10.00	Hogs ..... do	3 to 8.00
Sheep ..... do	2.00	Sheep ..... do	0.50
Artificial butter ..... 100 kilogrammes	15.00	Artificial butter ..... 100 kilogrammes	8.00
Vinegar	40.00	Vinegar	4.50
Bacon ..... 100 kilogrammes	8.00	Bacon ..... 100 kilogrammes	4.00
Vegetables (except potatoes) ..... do	2.00	Vegetables (except potatoes) ..... do	1.00
Chicory ..... do	10.00	Chicory ..... do	8.00

The duty is also materially increased on articles of luxury, wine, champagne, etc., as well as on fine furniture, articles of dress, etc.

Large as the majority was for the adoption of the new tariff, the opposition of the minority was long and earnest. There are leading business men and manufacturers in Switzerland, regardless of party, who believe this increase of the tariff not only a mistake, but a calamity for the country. They look upon an increased tariff as a tax upon the Swiss people, and as an increase in the cost of living. It is possible that this new tariff will serve its special purposes.

It will help the Swiss in making new treaties with their neighbors, and it may lead to movements for international reciprocity between Switzerland and other great industrial countries. Its adoption cannot, to any material extent, affect the interests of the United States.

S. H. M. BYERS,
Consul.

UNITED STATES CONSULATE,
St. Gall, Switzerland, October 27, 1891.

INTERNATIONAL INDUSTRIAL MOVEMENTS IN 1890.

REPORT BY CONSUL GENERAL EDWARDS, OF BERLIN.

I have the honor to transmit herewith a translation for the annual report of the Berlin Chamber of Commerce, of an interesting paper entitled "Important Preparations and Advances in the Plane of International Industry in 1890."

In that portion of the paper relating to the United States, it will be seen that the writer reasons from the "plane of international industry" which would be most pleasing and profitable to the German manufacturers. Outside of interested coloring, the paper has much in it that should be of interest to American industrials.

W. H. EDWARDS,
Consul General.

UNITED STATES CONSULATE GENERAL,
Berlin, October 30, 1891.

(Translated inclosure in Consul General Edwards' Report.)

IMPORTANT PREPARATIONS AND ADVANCES IN THE PLANE OF INTERNATIONAL INDUSTRY IN 1890.

A number of treaties between Germany and states with which it has claim to the application of treaty customs tariffs—either through mutual agreement in regard to certain customs rates, or through the "most favored nation clause"—will expire on February 1, 1892. The notice which necessarily precedes the termination of a treaty has, in several instances, already (before February 1, 1891,) been given.

While in the year 1890 the trade relations existing between states thus bound together experienced little change, France undertook a complete alteration of its tariff and the establishment of new customs-political principles.

FRANCE.

Already, in March, 1890, the representatives of the French people expressed themselves as being opposed to a removal of those French commercial treaties which will expire on February 1, 1892, this opinion being based upon the answers given by the various chambers of commerce to inquiries addressed to them, only the chambers of commerce of seaports and of Nimes giving favorable answers. In the tariff bill which was introduced about the end of October, the French government took the ground that the replies of nearly all interested parties showed that a departure from the former customs policy was demanded. The same did not satisfy present requirements, it was stated, partly because producing and shipping conditions had changed very much, and partly because other states were more and more abandoning the doctrine of free trade. Under these circumstances the government could not refuse to follow the wishes expressed by a large majority of the representatives of agriculture and industry, and to introduce those changes in the customs tariff which would protect French products and, at the same time, assist the state budget.

The government, however, could not decide to bann from the French commercial-political system every treaty element without exception, as the refusal to make any

treaty would place the land in a position of complete industrial isolation and invite dangerous customs reprisals on the part of other countries. The government, therefore, decided that it was possible to take into account the complaints which had been made more against the operation than against the principles of the treaty system, without losing the advantages secured through this system. This object is aimed at in the proposed combination of a maximal and a minimal tariff.

The maximal tariff will be the generally applicable tariff which will hold in all cases where special concessions are not guaranteed; it will, therefore, in no case have the character of an exceptional regulation directed against a particular state. The minimal tariff, on the other hand, will apply for the products of countries which grant corresponding advantages to French products; above all to those which treat French products on a most favored nation basis.

In the first deliberations of the committe of the chamber of deputies, appointed for the purpose of considering the customs tariff, the French Minister of Trade, Jules Roche, imparted the following additional information: In future the granting of the use of the minimal tariff will depend upon two conditions: 1. That the tariff rates offered to France are the best conceded to any nation; 2d. That the same contain real customs concessions. In regard to the question if the minimal tariff is to be granted for a fixed period or for an unlimited time, the minister of trade said that no definite answer could then be given, and that the government must retain freedom of action. Nevertheless, nothing in this direction can be done without the consent of the chambers.

That the French government means to keep open the possibility of negotiating with foreign countries appears in a sentence in the bill, above referred to, which was laid before the chamber: "It would be precipitate and not profitable, at the present time, to fix unchangeably the forms and limits for regulating industrial requirements. External circumstances can easily alter intentions, and it is therefore important not to come to a final decision until the matter has been thoroughly examined in agreement with you."

Concerning the French minimal tariff, the "Journal des Debats" rightly says it is indeed a tariff of inconsiderate and exorbitant protective duties, and if this is true of the minimal tariff in full measure, then the maximal tariff represents the highest protective duty claims of interested producers and manufacturers.

For French herders and farmers, forest owners, oil fruit planters, foundry owners, machine builders, and for all branches of the textile industry, etc., full protection is offered, and even the competition of "most favored nations"—among which Article II of the treaty of Frankfort places Germany—is reduced to a minimum.

Raw stuffs, especially cotton, flax, hemp, jute, wool, fresh hides, raw silk (whose production in France by no means covers the demand), as well as also raw flock and floret silk are made free of duty. On the other hand the following rates of duty are fixed: On cocoons, fresh, 1 franc; dried, 3 francs per kilogram; moulinàrt or ouvrirt, 300 franc per 100 kilograms. The duty on combed flock or floret silk is left at 10 francs per 100 kilograms.

Nearly all agricultural products, animal as well as vegetable, figure solely in the maximal tariff, and in no case is duty reduced. Living oxen, cows, steers, and sheep will no longer pay duty per head, but per 100 kilograms; oxen, 10 francs; cows, 8 francs; steers, 10 francs; sheep, 15.50 francs. The entry duty on fresh meat is much increased. Heretofore this amounted to 3 francs per 100 kilograms, a circumstance which in recent years rendered possible a considerable importation of slaughtered sheep from Germany and Austria-Hungary. In accordance with the new tariff the duty on slaughtered sheep will be 28 francs per 100 kilograms; on hogs, 10 francs; on oxen, etc., 20 francs. The entry duty on beer is 13 francs in the maximal tariff and 10 francs in the minimal tariff per hectoliter. The duty on wood is also increased, as domestic wood stood in urgent need of protection.

The tariff committee of the chamber of deputies, after it had finished, on November 5, the general discussion of the customs tariff bill and had accepted the principle of a double tariff by a vote of 34 to 5, is now busily engaged on details. The president is one of the most zealous agrarians, and the manufacturers and farmers of France—and in some branches, especially in the silk industry, the workingmen also—follow with interest the progress of the deliberations. These have, so far as can now be seen, almost without exception, resulted in an increase of the rates of duty, and the committee seems entirely to forget that French industries are dependent, to a high degree, upon exportations.

With still greater interest than that which it gave to this new phase of French customs-politics, Europe followed the attempt of the Republican party, which at present controls the rudder in the United States, to force back European competition with the rapidly growing industries of that country, by means of a high protection tariff and other sharpened administrative measures, and at the same time to reduce the other American states to greater political and industrial dependence upon the United States. For the latter purpose a congress was brought about by the Secretary of Foreign Affairs, Mr. Blaine, in the year 1889; but this did not yield the desired results. To reach this goal now a wider circuit is being made, for so soon as the new customs tariff had been forced through both houses in September, still another war tariff paragraph (the Edmund's bill) by which unlimited power was given to the President was added, and efforts were begun to encourage the annexation party in Canada, whose exportations of grain, cattle, and farm products to the United States had been injured to a high degree by the new tariff, and to effect a reciprocal treaty with Brazil. Such a treaty was actually made in the first months of 1891, which is to go into effect April 1, 1891.

THE UNITED STATES.

The new customs-administrative law of the United States which went into effect August 1, 1890, increased and sharpened the formalities to be observed in ascertaining the value of dutiable wares. The regulations for ascertaining value lead to a troublesome intrusion into all the details of business.

A strengthening of the formalities in regard to the appraisal of imported wares by American customs officials and the increasing of numerous rates of duty, both measures together, should—as the defenders thereof thought—cause both an increase of the public revenues and the industrial independence of the republic, through the encouragement of weakly developed branches of industry and the calling of new ones into life. It is difficult for the supporters of these measures to convince their opponents of the necessity and usefulness of the same as facts speak too loudly against them. The United States is suffering from a hypertrophic of material forces; its population, its trade, its industrial activity are growing; its burden of debts is falling off. From the years 1881 to 1890 its population rose from 42,000,000 to 62,500,000, its foreign trade from $1,545,000,000 to $1,647,000,000, its importations from $643,000,000 to $789,000,000; its trade balance was, with the exception of the years 1888 and 1889, always active, and in 1889–90 the excess of exports amounted to 681,500,000. The debt of the United States, which in the year 1866 was $2,600,000,000, was in 1890 only $922,000,000, the burden of interest in the same period having fallen from $146,000,000 to $29,400,000. The receipts from customs dues in 1889 amounted to $223,800,000, which was 57.8 per cent. of the entire receipts. What advances industry has made in the Union is shown by the relative decrease in the importation of manufactures, which in the year 1880 amounted to $424,000,000, 63.4 per cent. of the total importation, while in the year 1889 it was only 57.4 per cent.; and by the increase, *e.g.*, of the iron production which amounted in 1882 to 4,623,000 tons, and in 1889 to 7,603,000 tons. The expenses which Europe from year to year find heavy burdens for the army, navy, and civil service, are stable in the Union. On the other hand the amount expended there for "pensions" increased last year to $107,000,000.

The revision of the tariff, which brought a large number of increases of customs rates and a small number of reductions and releases from liability to duty, was carried through by the Republican party, and its influential support of great manufacturers in the House of Representatives and in the Senate, and the new tariff came at once into operation on October 6. The great American importing houses, both Republican and Democratic, made the most active and determined opposition. The Democratic party had more and more retired from the war of controversy in the belief that the victory of their opponents after a short triumph would be turned into defeat. To the masses the party in power offered brilliant pictures of coming prosperity, increases of wages, etc.

The exportations from Germany to the United States in the fiscal year 1889–90 (1st of July to the end of June), partly on account of the expected rates of duty changes, reached the height of $81,743,000. Of this amount 74 per cent. was from the jurisdiction of the Berlin Consulate General, which embraces North Germany and Saxony. Of this amount $15,200,000 was in sugar, which was not affected by the new tariff unfavorably.

Berlin shipped to the United States in 1889–90 wares and products valued at $5,654,000; Chemitz, $11,369,000; Leipsic, $4,962,000; Plauen, $4,214,000; Hamburg, $8,464,000.

The chief exports from the district of the North German Consulate General, with the exception of sugar, were: Chemicals, $1,400,000; chicory, $2,200,000; clothing and clothing stuffs, $6,400,000; gloves, $3,200,000; hosiery, $7,600,000; silk wares, $2,100,000; mantels, etc., $1,100,000; yarns, $600,000; paper wares, $900,000.

Of the manufactures Berlin supplied: Albums, $815,633; leather gloves, $333,517; paper wares, $220,930; mantels, etc., $938,946; clothing and stuffs, $542,542; instruments, $68,646.

Of the exports from South and West Germany, comprising the jurisdiction of the Consulate General at Frankfort-on-the-Main, the statistics are at hand for the calendar year 1890. The total value of exports to the United States from this jurisdiction was $43,130,000, against $37,160,000 in 1889, an increase of $5,970,000. The decrease in the last quarter of the year was chiefly due to the fact that that exportation was forced in the preceding quarter. Barmen's export in the year 1890 was $7,520,000; Crefeld's, $6,010,000; Cologne's, $2,840,000; Aix-la-Chapelle's, $1,990,000; Mayence's, $2,310,000; Düsseldorf's, $1,380,000; Frankfort's, $3,860,000; Mannheim's, $3,120,000; Sonneberg's, $3,930,000; Stuttgart's, $1,490,000; Munich's, $1,240,000. The chief articles of export were silk and silk wares, iron wares (much reduced since 1887, when the amount exported was valued at $7,310,000), chemicals, linen, woolen, and cotton wares, hardware, toys, glass and glasswares (Nuremberg and Fürth), leather, skins and hides, wine, beer, and spirits, $1,560,000.

The activity displayed by German manufacturers shortly before the proclamation of the new tariff went, however, too far. This is shown by the export statistics of the fourth quarter.

It is very probable that the people of the United States will put up with the heavy duties devised by the Republican party so long as the new tariff is in force, for an industry capable of delivering articles of all kinds at moderate prices, as the various export lands are in position to supply the demand of the United States, cannot be decreed away by customs, administrative, and tariff laws.

Among the articles of German export to the United States the products of the textile industry were most important, as is shown by the figures given above. The tariff rates on the products of the textile industry have, with a few trifling exceptions, been much increased, although the duties were before by no means moderate. To win a substitute, from its own manufactures, for these importations will still be impossible for years. The plan, considered by German, English, etc., manufacturers during the discussion of the new tariff, of building branch factories in the United States has, it is reported from various sides, met with obstacles arising from the uncertain future of the new tariff law.

SOUTH AMERICA.

With several South American states European capital, especially English, has had a very sad experience. Mismanagement in the Argentine Republic caused the severe crisis which occurred in November, and before that unsteadied trade conditions in that country. Germany's exportations to the Argentine Republic, which in the preceding year had increased, fell off in railway supplies, rails, bar iron, iron ware, machines, cotton and woolen wares, and other articles in 1890; *e g.*, in rails, from 68,762 to 12,435 double centners; bar iron, from 77,652 to 30,542 double centners; machines, from 19,545 to 9,060 double centners; iron wire, from 224,001 to 55,168 double centners. The huge shipments of England likewise decreased.

In like manner Brazil was brought near to a crisis, after its conversion to republicanism, by the flooding of the market with the paper money of the new Brazilian National Bank; by unwise speculations in enterprises of all sorts; by adventurous land investments which were to be made profitable by encouraging immigration, etc.

After the middle of the year, for the purpose of improving the rate of exchange, partial payment of import duties in gold was introduced. After July 15 entire payment in gold of such duties was required. The natural consequence of this was an important increase of the customs duties and of the prices of wares. To this country, also, Germany's exportation fell off in 1890; *e. g.*, rails, from 123.898 to 74,141 double centners; iron wire, from 40,305 to 31,844 double centners. In cloth and piece wares there was, however, a moderate advance from 3,942 to 4,719 double centners. The reciprocal treaty between the United States and Brazil, which secured to North American agricultural and mining products, steam machines, and iron wares free entry into Brazil, and to numerous industrial products a tariff advantage of 25 per cent., seriously threatens Germany's competition in important articles of export to Brazil unless we can succeed in obtaining similar concessions from the Brazilian government.

In Chili the political crisis in the last part of the year awakened serious fears for our large and valuable import and export interests there.

RUSSIA.

Finally, in our glance at the more important commercial events in the year 1890, we must not forget Russia. According to Russian statistics, Russia's exportation to Germany was as large in the year 1888 as in the year 1884, more than 182,000,000 rubles. On the other hand, the value of Germany's exportation to Russia in the same period fell from 175,800,000 to 122,600,000 rubles.

Russia has deemed it of value to develop its mine, foundry, and machine industries, its silk, cotton, and wollen industries, etc., by means of constantly increasing protective duties which increase enormously the price of necessary articles to their consumers and benefit only a comparatively small number of interested persons in whose hands these businesses are placed, although they are hardly able to supply the barest demand for these articles in the Russian Empire. When, however, last year, in the beginning of September, an unexpected general 20 per cent. increase of duties was put into operation, and a tariff committee—consisting of large manufacturers and officials, there being few representatives of agriculture and none of the consuming classes—appointed to prepare new increased customs tariff, for the first time in Russia numerous and influential voices were loudly raised with justice against the partiality shown to rich manufacturers and mill owners in preference to the farmers. Active complaint was made against the injury to agriculture and the increasing indebtedness of the great landed estates. Concerning the condition of the same the publications of the agricultural banks gave ample proof. Many estates are being offered at public sale on account of the non-payment of mortgage interests. Until a few years ago agricultural machines and implements were admitted free of duty. In the year 1885, in favor of Russian machine builders, a duty of 50 copecks gold per pud was introduced, and two years later this rate was increased to

70 copecks. It was now intended to double this rate, but in the middle of December the tariff committee decided, at least, against this one increase.

At present in the ruling circles of Russia the preference is for the increase of the number of factories which subtracts from the labor force which is already insufficient for the cultivation of the soil.

The general increase of tariff rates last September leaves little room for doubting the tendency of the deliberations of the Russian customs tariff committee. The new tariff was intended to be finished on June 1. As its precursor, the 20 per cent. immediate increase of all tariff rates was decreed in the preceding year.

Not without interest for foreigners is a comparison of the reasons given for this move with the motives advanced in 1876 when Russian tariff rates were also much advanced. In November, 1876, the Russian government ordered that duties could no longer be paid in paper rubles, the only sort of money which circulates in Russian trade, but in gold. As at that time one and a half rubles in paper had the value of one metal ruble, this order implied an increase of about 50 per cent. on all import duties. For the addition of 20 per cent. since last September, on the other hand, the favor of payment in Russian paper rubles is granted.

While the rising value of the Russian paper ruble has rendered dearer our importation of Russian raw products, it somewhat assisted German exportation, and many German manufacturers, on account of the improved ruble course, increased their exportations to Russia. The German export to Russia, *e. g.*, in the year 1890, increased in wollen wares, silk, and half-silk wares, pianos, sewing machines, other machines, railway rails, bar iron, certain drugs, and dyewoods, while it decreased in pit coal, rolled tubes, and wollen yarn, and remained unchanged in cotton wares and fine iron wares. But the 20 per cent. increase of tariff rates brought an end to this temporary improvement of our export relations with Russia. One cannot go astray in considering that the public inquiries which are being more and more recognized in Russian circles are principally due to this system of constantly increasing customs rates, and that treaty stipulations which would limit the changing of these rates lie in Russia's own industrial interest. A fixed, permanent basis of intercourse with the neighboring countries would be more advantageous, not only to these but also to the Russian Empire, than the present unsatisfactory state of affairs.

GERMANY.

If France will carry out the plan proposed last year, which threatens to isolate it more than ever industrially and which has awakened the mistrust of its friendly neighbors in the East and in the West and aroused fear even in French industrial circles that France will thereby greatly injure its indispensable export trade, cannot be positively predicted until the French Chamber of Deputies begins the discussion of the customs tariff; for up to the present only those interested in a high tariff have been heard.

Not in the direction of limiting and obstructing, but with the purpose of mutually lightening and assisting commercial intercourse, have the negotiations between the German Empire and Austria-Hungary been carried on. These negotiations were begun partly for the purpose of supplanting expiring commercial treaties with new ones and partly for contracting new treaties, the same need being felt by other central European states. In these negotiations can be seen the firm intention mutually to advance the sales of products, and for this purpose to make compromises and to fix under binding treaties the agreements, to return to moderate duties when these have been abandoned, to open a wider field to all branches of labor. The goal is great and valuable, and will, if it is reached, give to the European Continent an example whose consequences will be rich. These negotiations are watched with active sympathy in Germany as well as in Austria.

From very weighty grounds, however, have all important German seaports, as well as the Berlin Chamber of Commerce, protested against any differential duties in favor of the Austrian grain export trade.

According to German commercial statistics, reaching to the year 1889, Germany had:

	Importation from.	Exportation to.
	In million marks.	*In million marks.*
France	285.4	210.2
Austria-Hungary	537.2	340.8
Italy	148.8	103.4
Switzerland	181.1	177.4
Russia	551.8	196.9

These figures are significent at a time when the question is, shall the over-extension of tariff be continued, or shall there be a return to the moderate system encouraging a profitable exchange of products. Germany, Austria-Hungary, Italy, and Switzerland seem to be in favor of the latter course, and, united, they will have a deciding weight in the scales. Italy was somewhat retarded by a business crisis last year which affected both the export and the import trade with Germany. Italy's exportations to Germany increased in the period from 1881 to 1889 from 76,250,000 to 148,750,000 marks, while its importations from Germany increased from 66,500,000 to 156,502,000 lires.

A treaty was completed last year between Germany and Turkey. This secured a change from ad valorem to weight duties on importations into Turkey, which was as much in the interest of the honest merchant as of the regular receipts of the Turkish treasury.

EXPORTS FROM BAHIA TO THE UNITED STATES.

Statement showing the declared value of Exports from Consular District of Bahia to the United States during the four quarters of the year ended June 30, 1890.

Articles.	Quarter ending—				Total for the year.
	September 30.	December 31.	March 31.	June 30.	
Bark, medicinal	$187.60				$187.60
Balsam				$164.88	164.88
Carbon	20,875.27	$34,163.92	$8,169.77	8,080.40	71,289.36
Cocoa	83,578.95	244,520.49	120,785.94	22,671.62	471,557.00
Coffee		197,773.42	228,071.42	225,730.63	651,575.47
Gold (old jewelry)				1,000.00	1,000.00
Hides		2,766.05			2,766.05
Piassava	4,658.96		5,085.92		9,744.88
Rosin	70.45				70.45
Rubber	20,336.24	22,443.91	11,701.09	12,086.76	66,568.00
Sticks, for handles and canes		290.00		296.50	586.50
Skins, goat and sheep	88,160.03	58,348.03	166,341.05	168,730.49	481,579.60
Sugar	30,279.70	50,792.96	216,071.19	835,788.97	1,132,882.82
Woods, Brazil and rose	21,019.88	2,806.86	7,365.89	33,615.97	64,802.60
Total for four quarters					2,954,775.21

UNITED STATES CONSULATE,
BAHIA, *September 11, 1891.*

D. N. BURKE,
Consul.

INDEX.

[VOL. XXXVII (NOS. 132, 133, 134, AND 135), CONSULAR REPORTS.]

A.

Page.

Abbott, J. T. (minister, Bogotá), foreign commerce of Colombia..... 514
Adams, L. J. (consul, Horgen), Swiss savings banks..... 478
Africa (South), the electric light in..... 268
Agricultural implements in Persia..... 449
machinery in Pomerania..... 299
products, European tariffs on..... 6
Agriculture and commerce of Malaga..... 237
horticulture, Mexican..... 452
in Tobago..... 256
Almonds, Malaga..... 240
American-Belgian trade..... 205
-Birmingham trade..... 536
-Bradford trade..... 531
-Huddersfield trade..... 541
lard and canned beef in Germany..... 180
-Leeds trade..... 545
-Liverpool trade..... 555
-Sheffield trade..... 553
-Spanish trade..... 182
tobacco at Malta..... 294
trade, opening for, in Malaga..... 243
vs. Staffordshire pottery..... 41
Americans seeking employment in Australia..... 490
Antigua, artificial ice in..... 208
Australia, Americans seeking employment in..... 490
Austria-Hungary, patent laws of..... 33
Austrian exports to the United States..... 578

B.

Bahamas, fiber-cleaning machines in..... 4
Bahia, exports from, to the United States..... 589
Balbi, J. F. (vice-consul, Malta), shipping and trade of Malta..... 293
Bangkok trade in 1890..... 77
Bank of Spain..... 235
the postal savings, of France..... 481
Banks, savings, in Norway..... 430
of Trinidad..... 254
Swiss savings..... 478
Barcelona, cotton goods trade of..... 264
Beale, T. (consul-general, Teheran), agricultural implements in Persia..... 449

Page.
Bedloe, E. (consul, Amoy), China tea and tea trade..... 460
Beef, American canned, and lard in Germany..... 180
Belgian-American trade..... 205
draft horse..... 231
Belgium, grain crops of..... 170
Berlin, chemical industry of..... 403
exporters of..... 20
public test institute of..... 213
workhouse and home for the homeless..... 153
Bermuda, exports from, to the United States..... 451
insect pest in..... 451
productions and exports of..... 450
Birmingham-American trade..... 536
Bissinger, E. (consul, Beirut), projected industries in Syria..... 381
sheep and wool in Syria..... 69
Bode, H. E. (vice-consul, Bombay), Indian cotton..... 313
Bohemia, wages in..... 469
Bornholdt, N. P. A. (consul, Riga), trade of Riga, 1890 and 1891..... 474
Bowen, H. W. (consul, Barcelona), Catalonian jackasses..... 200
cotton goods trade of Barcelona..... 264
Spanish-Cuban trade..... 266
Spanish railways..... 280
Bowser, B. (consul, Sierra Leone), trade opportunities of Sierra Leone..... 27
Boyd, S. H. (consul-general, Bangkok), trade of Siam..... 77
Bradford-American trade..... 531
declared exports from, to the United States..... 531
Bradford, J. S. (consul, Antigua), artificial ice in Antigua..... 208
Budget of Uruguay..... 114
Burgess, W. (consul, Tunstall), Staffordshire vs. American pottery..... 41
Burke, D. N. (consul, Bahia), exports from Bahia to the United States..... 589
Byers, S. H. M. (consul, St. Gall), the new Swiss tariff..... 581

C.

Cable, Para submarine..... 128
Cadiz, food prices in..... 501
Canadian egg trade..... 124
Cape Colony, census of, 1891..... 398
commerce and agriculture in..... 395
imports into, from the United States..... 396
Cape Town..... 399
Carr, C. E. (minister, Copenhagen), free port of Copenhagen..... 1
Catalonian jackasses..... 200
Census of Cape Colony, 1891..... 398
Norway..... 431
Central America:
Honduras and her constitution..... 318
Nicaragua, railroad extension in..... 23
Trade of Nicaragua..... 211
Charities in the Netherlands..... 409
Chemical industry of Berlin..... 403
China tea and tea trade..... 460
white wax in..... 201

Page.
Clay (burnt), mortar 181
Coal and coal mines of Natal 269
iron trade of Germany 215
at Malta 295
mines and coal of Natal 269
Cobalt, the manufacture of 28
Colombia, exports from, 1890 515
foreign commerce of 514
imports into, 1890 519
shipping at, 1890 530
Colombian duties 530
Copenhagen, free port at 1
the milk supply of 558
Cotton goods trade of Barcelona 264
Indian 313
yarns, foreign, in France 479
Crawford, J. M. (consul-general, St. Petersburg), Government loans to Russian farmers.. 309
movement of population on Russian borders 511
Crops, grain, of the world 161
Cuban-Spanish trade 266
Currency of Korea 494

D.

Dairy experiments in Denmark 267
Danish West Indies 369
exports and imports of 369
population of 370
revenue of 369
shipping at 369
Demetriades, D. N. (acting consul-general, Constantinople), foreign trade of Turkey.. 380
Denby, C. (minister, Peking), white wax in China 201
Denmark, dairy experiments in 267
mercantile marine of 446
Docks of Natal 16
Donkeys of Pantellaria 223
Dougherty, C. A. (secretary of legation, Mexico), Mexican exports 497
Duties and taxes in Tobago 255
Trinidad 246
Colombian 530

E.

Education, technical, at St. Etienne 79
Edwards, W. H. (consul-general, Berlin), alimentary law of Germany 129
American lard and canned beef in Germany. 180
Berlin workhouse and home for the homeless.. 153
chemical industry of Berlin 403
food imports into Germany 32
German exports to the United States 434
sugar trade 402
international industrial movements in 1890... 583
iron and coal trade of Germany 215

Page.
Edwards, W. H. (consul-general, Berlin), navigation law of Germany..... 431
prices of food products in Germany..... 382
public test institute of Berlin..... 213
the exporters of Berlin..... 20
Egg trade, Canadian..... 124
Egypt, grain crops of..... 177
Egyptian sheep and wool..... 392
Electric light in Malta..... 273
South Africa..... 268
Electricity, long-distance transmission of..... 198
Emigration from Norway..... 265
international control of..... 486
Italian, to the United States..... 386
England, tramway wages in..... 468
tramways and waterways in..... 453
Estes, W. E. (consul, Kingston), foreign trade of Jamaica..... 321
Europe (northern), grain crops of..... 169
European tariffs on agricultural products..... 6
Exporters of Berlin..... 20
Exports and imports, Danish West Indies..... 369
of Italy..... 234
Tobago..... 256
Trinidad..... 249
Uruguay from 1878 to 1884..... 82
productions of Bermuda..... 450
Austrian, to the United States..... 578
declared, from Bradford to the United States..... 531
from Bahia to the United States..... 589
Bermuda to the United States..... 451
Colombia, 1890..... 515
France..... 485
to the United States..... 532
Jamaica..... 349
Mazatlan..... 391
Spain to the United States..... 183
St. Thomas..... 373
Uruguay by articles..... 108
German, to the United States..... 434
Mexican..... 497
of Natal..... 15
to the United States from Malaga..... 243
Spain..... 183

F.

Fechet, E. O. (consul, Piedras Negras), the Mexican zona libre..... 206
Fertilizers, chemical, in Japan..... 552
Fiber-cleaning machines in the Bahamas..... 4
Fibers, vegetable, of Trinidad..... 279
Figs, Malaga..... 242
Fiume and Trieste, trade of..... 384
Folsom, B. (consul, Sheffield), Sheffield-American trade..... 553

Page.
Food prices in Cadiz..... 501
France, artificial oyster culture in..... 244
exports in..... 485
to the United States..... 532
foreign commerce of..... 483
cotton yarn in..... 479
grain crops of..... 171
imports into..... 485
meteorological changes in..... 408
postal savings bank of..... 481
wine question in..... 277
woolen industry of (this report was erroneously headed "the woolen industry of the district of Rheims")..... 407
French commerce..... 39
Fruit trade of Trinidad..... 251

G.

Gade, G. (consul, Christiania), commerce and industries of Norway..... 422
emigration from Norway..... 265
German exports to the United States..... 434
sugar trade..... 402
Germany, alimentary law of..... 129
American lard and canned beef in..... 180
food imports into..... 32
grain crops of..... 168
iron and coal trade of..... 215
migration law of..... 431
prices of food products in..... 382
Gold mines of the Malay Peninsula..... 209
Goldschmidt, J. (consul-general, Vienna), Austrian exports to the United States..... 578
grain crops of the world..... 161
Grain crops of Belgium..... 170
Egypt..... 177
France..... 171
Germany..... 168
Holland..... 170
India..... 178
Italy..... 171
northern Europe..... 169
Roumania..... 172
Russia..... 172
Servia..... 172
Switzerland..... 170
the United Kingdom..... 171
world..... 161
Grant, L. D. (vice-consul-general, Cairo), Egyptian sheep and wool..... 392
Grapes, Malaga..... 237
Great Britain, tomato in..... 488
Griffin, W. T. (commercial agent, Limoges), French commerce..... 39
Italian emigration to the United States..... 386
the wine question in France..... 277

H.

Page.
Harbor of Mazatlan 389
Natal 16
Hartigan, J. F. (consul, Trieste), trade of Trieste and Fiume 384
Hats, palm-leaf, Malaga 241
Hawes, J. B. (consul, Reichenberg), patent laws of Austria-Hungary 33
wages in Bohemia 469
Heard, A. (consul-general, Seoul), the currency of Korea 494
Heath, C. (consul, Catania), burnt-clay mortar 181
donkeys of Pantellaria 223
sulphur-mining in Sicily 363
Heyl, J. H. (vice-consul, Bermuda), productions and exports of Bermuda 450
Hill, F. D. (consul, Montevideo), trade and commerce of Uruguay 81
Holland, grain crops of 170
Hollis, G. F. (consul, Cape Town), commerce and agriculture in Cape Colony 395
Hollis, W. S. (consular agent, Port Natal), coal and coal mines of Natal 269
the electric light in South Africa 268
trade and commerce of Natal 13
Honduras and her constitution 318
Horne, S. B. (consul, St. Thomas), Danish West Indies 369
Horse, the Belgian draft 231
Horticulture and agriculture, Mexican 452
Huddersfield-American trade 541

I.

Ice, artificial, in Antigua 208
Imports and exports, Danish West Indies 369
of Italy 234
Tobago 256
Trinidad 249
Uruguay from 1878 to 1884 82
at Matamoros 39
food, into Germany 32
into Cape Colony from the United States 396
Colombia, 1890 519
France 485
Jamaica 321
Spain from the United States 183
St. Thomas 371
Uruguay by classes 105
in 1888 and 1889 93
of Natal 14
India, grain crops of 178
Indian cotton 313
Industrial movements, international, in 1890 583
Insect pest in Bermuda 451
Institute, public test, of Berlin 213
International industrial movements in 1890 583
Iron and coal trade of Germany 215
ore from Malaga for the United States 242
Italian emigration to the United States 386
Italy, grain crops of 171
imports and exports of 234

J.

Page.
Jackasses, Catalonian 200
Jamaica, exports from 349
foreign trade of 321
imports into 321
shipping at 357
Japan, chemical fertilizers in 552
Jarrett, J. (consul, Birmingham), Birmingham-American trade 536
Jewett, H. M. (consul, Sivas), commerce and products of Sivas 475

K.

Kellogg, J. (consul, Stettin), trade and industries of Pomerania 296
King, A. E. (consul-general, Paris), exports from France to the United States 512
Knowles, H. G. (consul, Bordeaux), artificial oyster culture in France 244
meteorological changes in France 408
the postal savings-bank of France 481
wines of the Medoc 281
truffles 158
vanilla 127
Korea, the currency of 494

L.

Lake Managua traffic 319
Lambert, R. (consul, Mazatlan), Mazatlan 388
Lard, American, and canned beef in Germany 180
Law, alimentary, of Germany 129
migration, of Germany 431
Laws, patent, of Austria-Hungary 33
Lead for the United States from Malaga 242
Leeds-American trade 548
Lemons, Malaga 240
Light, the electric, in Malta 273
South Africa 268
Liverpool-American trade 555
Loans, Government, to Russian farmers 309
Loomis, F. B. (commercial agent, St. Etienne), foreign commerce of France 483
international control of immigration 406
technical education at St. Etienne 79

M.

Machinery, agricultural, in Pomerania 299
Machines, fiber-cleaning, in the Bahamas 4
Malaga, agriculture and commerce of 237
almonds 240
exports to the United States from 243
figs 242
grapes 237
iron ore from, for the United States 242
lead from, for the United States 242
lemons 240
olives 241
openings for American trade in 243

Page.
Malaga oranges..... 240
palm-leaf hats..... 241
products of..... 237
raisin-making in..... 239
raisins..... 238
wine..... 241
Malay Peninsula, the gold mines of the..... 209
Malta, American tobacco at..... 294
coal at..... 295
electric light in..... 273
petroleum at..... 295
shipping and trade of..... 293
Managua (lake) traffic..... 319
Marine, mercantile, of Denmark..... 446
Mason, F. H. (consul-general, Frankfort), long-distance transmission of electricity..... 198
Matamoros, affairs in..... 37
agricultural outlook of..... 37
imports at..... 39
public health of..... 37
railroads of..... 38
Mazatlan..... 388
a railroad terminus..... 389
exports from..... 391
harbor of..... 389
McLain, Thomas J., jr. (consul, Nassau), fiber-cleaning machines in the Bahamas..... 4
Medoc, the wines of the..... 281
Mercantile marine of Denmark..... 446
Metals and minerals in Pomerania..... 297
Mexican agriculture and horticulture..... 452
exports..... 497
zona libre..... 206
Mexico, wheat toll (octroi) in..... 448
Migration law of Germany..... 431
Milk supply of Copenhagen..... 558
Minerals and metals in Pomerania..... 297
Mines, coal, of Natal..... 269
the gold, of the Malay Peninsula..... 209
Mining (sulphur) in Sicily..... 363
Mortar, burnt-clay..... 181

N.

Natal, docks of..... 16
exports of..... 15
harbor of..... 16
imports of..... 14
shipping at..... 16
trade and commerce of..... 13
wool trade of, with the United States..... 13
Netherlands, charities in the..... 409
Newell, W. (consul, Managua), Lake Managua traffic..... 319
railroad extension in Nicaragua..... 23
sugar industry of Nicaragua..... 387
trade of Nicaragua..... 211

Page.
Newson, T. M. (consul, Malaga), agriculture and commerce of Malaga..... 237
Nicaragua, railroad extension in..... 23
sugar industry of..... 387
trade of..... 211
Nickel, new mode of extracting..... 29
Norway, census of..... 431
commerce and industries of..... 422
emigration from..... 265
merchant marine of..... 429
railroads in..... 431
revenue of..... 431
savings banks in..... 430
shipping of..... 429

O.

Octroi duty on wheat in Mexico..... 448
Olives, Malaga..... 241
Oranges, Malaga..... 240
Ore, iron, from Malaga for the United States..... 242
Oyster culture, artificial, in France..... 244

P.

Palm-leaf hats, Malaga..... 241
Pantellaria, the donkeys of..... 223
Para submarine cable..... 128
Patent laws of Austria-Hungary..... 33
Persia, agricultural implements in..... 449
the tobacco industry of..... 258
Peterson, J. J. (consul, Tegucigalpa), Honduras and her constitution..... 318
Petroleum at Malta..... 295
Pierce, Wm. P. (consul, Trinidad), affairs in Trinidad and Tobago..... 246
vegetable fibers of Trinidad..... 279
Pitch lake, Trinidad..... 254
Pomerania, agricultural machinery in..... 299
minerals and metals in..... 297
trade and industries of..... 296
Population, movement of, on Russian borders..... 511
of Danish West Indies..... 370
Port, free, at Copenhagen..... 1
Postal savings bank of France..... 481
Pottery, American vs. Staffordshire..... 41
printed, in Staffordshire..... 63
Pratt, E. S. (consul-general, Teheran), the tobacco industry of Persia..... 258

R.

Railroad extension in Nicaragua..... 23
to Rosario..... 390
Railroads and sisal in Yucatan..... 399
in Norway..... 431
of Matamoros..... 38
Railways, Spanish..... 280
Raisin-making in Malaga..... 239

Page.
Raisins, Malaga 238
Reid, W. (minister, Paris), foreign cotton yarns in France 479
Reimer, O. E. (consul, Santiago de Cuba), sugar industry of Santiago de Cuba 8
trade of Santiago de Cuba 203
Revenue of Danish West Indies 369
Norway 431
St. Thomas and St. John 375
Ribbon and silk trade of St. Etienne 126
Richardson, J. B. (consul, Matamoros), affairs in Matamoros 37
Riga, trade of, 1890 and 1891 474
Roosevelt, G. W. (consul, Brussels), Belgian-American trade 205
the Belgian draft horse 231
Rosario, railroad to 390
Roumania, grain crops of 172
Russia, grain crops of 172
Russian borders, movement of population on 511
farmers, Government loans to 309
Ryan, T. (minister, Mexico), wheat toll (octroi) in Mexico 448
Ryder, H. B. (consul, Copenhagen), dairy experiments in Denmark 267
mercantile marine of Denmark 446
milk supply of Copenhagen 558

S.

St. Etienne, ribbon and silk trade of 126
technical education at 79
St. John and St. Thomas, revenue of 375
St. Thomas and St. John, revenue of 375
exports from 373
imports into 371
shipping at 373
Samoa, trade of 232
Sampson, A. J. (consul, Paso del Norte), Mexican agriculture and horticulture 452
Santiago de Cuba, sugar industry of 8
trade of 203
Savings bank, the postal, of France 481
banks in Norway 430
Swiss 478
Servia, grain crops of 172
Sewall, H. M. (consul-general, Apia), trade of Samoa 232
Sheep and wool, Egyptian 392
in Syria 69
Sheffield-American trade 553
Sherman, T. H. (consul, Liverpool), Liverpool-American trade 555
Shipping and trade of Malta 293
at Jamaica 357
Natal 16
St. Thomas 373
of Colombia, 1890 530
Danish West Indies 369
Norway 429
Uruguay 119
Siam, trade of 77

Page.
Sicily, sulphur-mining in 363
Sierra Leone, trade opportunities of 27
Silk and ribbon trade of St. Etienne 126
Sivas, commerce and products of 475
Smyth, W. P. (commercial agent, Huddersfield), Huddersfield-American trade 541
the tomato in Great Britain 488
tramways and water ways in England 453
South Africa, the electric light in 268
South America:
Foreign commerce of Colombia 514
Lake Managua traffic 319
Para, submarine cable of 128
Spain, Bank of 235
exports from, to the United States 183
imports into, from the United States 183
judicial and criminal statistics of 224
manufacturing industries of 261
Spanish-American trade 182
-Cuban trade 266
railways 280
Staffordshire, printed pottery in 63
vs. American pottery 41
Stettin, history of 301
trade and commerce of 307
Straits Settlements, trade of the 65
Sugar industry of Nicaragua 387
Santiago de Cuba 8
trade, the German 402
Sulphur-mining in Sicily 363
Swiss savings banks 498
tariff, the new 581
Switzerland, grain crops of 170
Syria, projected industries in 381
sheep and wool in 69

T.

Tariff, the new Swiss 581
Tariffs, European, on agricultural products 6
Taxes and duties in Tobago 255
Trinidad 246
Tea, China, and tea trade 460
trade and China tea 460
Thayer, S. R. (minister, the Hague), charities in the Netherlands 409
Thompson, E. H. (consul, Merida), sisal and railroads in Yucatan 399
Tibbetts, J. A. (consul, Bradford), Bradford-American trade 531
tramway wages in England 468
Tillotson, W. D. (consul-general, Kanagawa), chemical fertilizers in Japan 552
Tobacco, American, at Malta 294
industry of Persia 258
Tobago, agriculture in 256
imports and exports of 256
public debt of 256

Page.
Tobago, taxes and duties in..... 255
Tomato in Great Britain..... 488
Tramway wages in England..... 468
Tramways and water ways in England..... 453
Trieste and Fiume, trade of..... 384
Trinidad, affairs in..... 246
fruit trade of..... 251
imports and exports of..... 249
pitch lake of..... 254
savings banks of..... 254
taxes and duties in..... 246
vegetable fibers of..... 279
Truffles..... 158
Turkey, foreign trade of..... 380
Turner, R. W. (consul, Cadiz), American-Spanish trade..... 182
food prices in Cadiz..... 501
judicial and criminal statistics of Spain..... 224
manufacturing industries of Spain..... 261
the Bank of Spain..... 235

U.

United Kingdom, grain crops of the..... 171
United States, Austrian exports to the..... 578
declared exports to the, from Bradford..... 531
exports to the, from Bahia..... 589
Bermuda..... 451
France..... 532
Germany..... 434
Malaga..... 243
Spain..... 183
imports from the, into Cape Colony..... 396
into Spain from the..... 183
iron ore for the, from Malaga..... 242
Italian emigration to the..... 386
lead for the, from Malaga..... 242
Uruguay, American trade with..... 123
exports and imports of, from 1878 to 1884..... 82
of, by articles..... 108
financial question in..... 112
foreign coins in..... 115
imports into, by classes..... 105
in 1888 and 1889..... 93
public debt of..... 116
revenue of..... 114
shipping in..... 119
trade and commerce of..... 81

V.

Vanilla..... 127

W.

Wages in Bohemia..... 469
tramway, in England..... 468

Page.

Wallace, G. H. (consul-general, Melbourne), Americans seeking employment in Australia..... 490
Water ways and tramways in England..... 453
Wax, white, in China..... 201
West Indies (Danish)..... 369
Wheat toll (octroi) in Mexico..... 448
Wigfall, F. H. (consul, Leeds), American-Leeds trade..... 545
Wildman, R. (consul, Singapore), gold mines of the Malay Peninsula..... 209
trade of the Straits Settlements..... 65
Williams, C. P. (consul, Rouen), the manufacture of cobalt..... 28
woolen industry of France (this report was erroneously headed "the woolen industry in the district of Rheims")..... 407
Wine, Malaga..... 241
question in France..... 277
Wines of the Medoc..... 281
Wood, C. M. (vice-consul-general, Rome), imports and exports of Italy..... 234
Wool and sheep, Egyptian..... 392
in Syria..... 69
trade of Natal with the United States..... 13
Woolen industry of France (this report was erroneously headed "the woolen industry in the district of Rheims")..... 407
Workhouse and home for the homeless, Berlin..... 153
Worthington, J. (consul, Malta), the electric light in Malta..... 273

Y.

Yarns, foreign cotton, in France..... 479
Yucatan, sisal and railroads in..... 399

Z.

Zona libre, the Mexican..... 206

O